Moving America

New Directions, New Opportunities

A Statement of National Transportation Policy
Strategies for Action

About the Cover:

Curving glass walls with colorful lighting and a computer-generated neon light sculpture illuminate the moving walkway connecting terminals at Chicago's O'Hare International Airport. The sculpture is by Michael Hayden. The architect is Helmut Jahn. Photo by Keith Palmer.

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U.S. Department of Transportation

February 1990

THE WHITE HOUSE

WASHINGTON

February 26, 1990

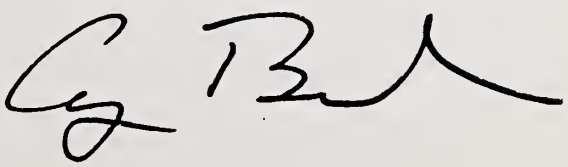
It is the responsibility of each generation to renew the foundations of society—to take all that we have learned, the mistakes we have made, our progress, and our potential, and apply this experience to shaping tomorrow.

Our forebears made an investment in the future that has paid us a handsome return and provided us with a higher quality of life than they enjoyed. The institutions they created, the new technologies they developed, and the transportation systems they built formed the foundations for a society far different from the one they inherited. We must pass on to future generations the legacy we have inherited, and build the foundations for a better tomorrow.

History must record that we took charge of our destiny and left a new generation with a better environment, a higher quality of life, and greater opportunities. To achieve this goal, transportation and transportation policy can be—must be—a vital agent for change. We have already reaped substantial benefits from regulatory reform and economic deregulation in transportation, and the Nation must build on that success. In the coming years, the transportation system must be an integral part of our investment in America's future.

To set the stage today for meeting our responsibilities and our obligations to future generations, the Department of Transportation, with the help of thousands of Americans who participated in the Department's outreach efforts, has given time and attention to rethinking our transportation programs and policies. This *Statement of National Transportation Policy* will help our transportation system to meet the needs of the 21st century. Now all of us—the Federal Government, State and local governments, industry, and private citizens—must work together to put this agenda into motion.

Thirty-five years ago, President Eisenhower's goal in establishing the program to build the Interstate Highway System was to "Unite the Nation" in a way that only an effective interchange of people and goods can provide. The Interstate Highway System is now virtually complete, and we have extensive transportation facilities and services in place in other modes. On the ground, over the waterways, in air and space, our mission for the next decade and the next century is to build on those achievements, to ensure connections among all parts of the United States and with the world. Our competitive success in a global economy depends on it.



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Statement of the Secretary of Transportation

An investment in transportation is an investment in America's future. No industry in the Nation is more important to U.S. economic growth and international competitiveness than transportation. Every household and every business, our mines and farms, manufacturers and utilities, export trade and national security, all depend on transportation. Americans spend nearly $800 billion for transportation products and services every year. As we enter a new decade and prepare for the 21st century, the United States must renew its commitment to maintaining our transportation system as the finest in the world and prepare for the challenges of the future. We must have a system that provides safe and efficient transportation for all people and communities, that carries passengers where they need to go and moves the vast quantities of goods we produce and consume.

It is time to take a new look at our transportation policies, to take stock of what those policies are doing well and poorly, and to set a course that will ensure we have a transportation system that supports our national goals for the future. That is why I initiated the process to develop this *Statement of National Transportation Policy*, and that is why I sought the comments and expertise of the users and providers of transportation, interest groups and private citizens, the academic community, and transportation professionals and public officials at all levels of government.

The next decade can be a watershed in the history of transportation in America. On the threshold of a new century, we have an opportunity to address the challenges of a changing society, a changing economy, new technology, and new roles and possibilities for all the members of the transportation community. There is significant potential for increased private sector involvement in transportation, including owning and operating toll roads and transit, and financing a broad range of projects through innovative corporate and joint public-private initiatives. In the near future, the Congress will be considering reauthorization of the Federal aviation, mass transit, highway, and highway safety programs. Those reauthorizations provide a chance to renew the transportation partnership, recognizing the increased responsibilities and capabilities of the State and local and private sector partners. The legislation must give other levels of government the flexibility, the responsibility, and the tools they need to address critical requirements in transportation.

The same principles of mutual interest and mutual responsibility for transportation apply well beyond the Federal-aid transportation programs the Congress will take up in coming years. The need to join in partnership with other levels of government and private industry extends to all modes and all aspects of the transportation system. There is an urgent need for government and industry to work toward reform in the maritime sector. We must also remove legal and regulatory impediments to an efficient passenger and freight rail system.

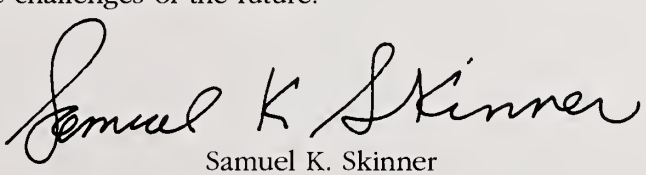
The Federal Government cannot meet these challenges alone. That is why this policy statement speaks to transportation goals, directions, and actions for all sectors of the Nation with a stake in transportation—State and local governments and the private sector, as well as officials and agencies throughout the Federal Government.

To ensure the continued vitality of our Nation, we all must participate in making the investments today that will spur productivity and allow transportation to be an engine of tomorrow's growth and prosperity. We need to focus our investment dollars on the areas with highest payback, and we need to take full advantage of new and emerging transportation technologies. At the same time, we must ensure that transportation supports the interests of safety, national security, conservation of energy, and environmental quality.

The directions for national transportation policy are captured under six major themes:

- Maintain and expand the Nation's transportation system
- Foster a sound financial base for transportation
- Keep the transportation industry strong and competitive
- Ensure that the transportation system supports public safety and national security
- Protect the environment and the quality of life
- Advance U.S. transportation technology and expertise

This document sets out the strategies and actions to accomplish those objectives and to help meet the goal President Bush has established for a comprehensive, forward-looking National Transportation Policy. I am confident that the policies summarized in the following pages can lay the foundation for moving together to meet the challenges of the future.



Samuel K. Skinner

Policy Summary

As we begin a new decade and prepare for the 21st century, the United States must renew its commitment to maintaining our transportation system as the finest in the world. We are entering an era in which our ability to compete internationally is critical to our economic vitality and quality of life. To meet the changing demands of the international marketplace, we must have safe, efficient transportation to carry people where they want to go and to move the vast quantities of goods we produce and consume. Projected transportation needs for the 21st century eclipse our present public and private sector programs. We must broaden the base of support for transportation, reinvigorate investment, and tap new sources of ideas and capital to meet growing demands.

A New Partnership

As we face the challenges of a changing society, an evolving world economy, and new technologies, we must restructure the transportation partnership to give other levels of government and the private sector the tools they need to address critical requirements in transportation. All of those who have a stake in efficient transportation must participate—Federal, State, and local governments, private businesses, academic institutions, transportation interest groups, communities, and individuals. The measure of our Federal policies will lie in their success at unleashing private resources and at using public resources most efficiently to meet the Nation's transportation needs.

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The mission of the Department of Transportation, as set forth in the legislation establishing the Department, is to "provide general leadership in identifying and solving transportation problems," to "develop and recommend . . . transportation policies and programs" to the President and Congress, and to "achieve transportation objectives considering the needs of the public, users, carriers, industry, labor, and national defense."

The Federal Government's direct role in achieving transportation objectives is anchored in Constitutional responsibilities to promote and facilitate interstate commerce, conduct the Nation's foreign affairs, and provide for the general welfare and national defense. Beyond these responsibilities, the Federal Government must be involved in transportation decisions where other compelling national interests are involved. In all cases, Federal

programs and policies should be designed to contribute to attaining national goals; based on cost-effective use of resources in relation to public benefits; responsive to market needs and based on market principles; directed to factors such as safety or the environment that are not adequately reflected in market prices; equitable in dealing with the various modes and forms of transportation; and flexible enough to address varying circumstances and needs.

The National Policy Agenda

To respond to views expressed around the country during the public outreach effort and to prepare for future challenges and opportunities, the Department has developed an ambitious agenda to fulfill both short- and long-term needs. This agenda revolves around six key themes.

1. **Maintain and expand the Nation's transportation system.**
2. **Foster a sound financial base for transportation.**
3. **Keep the transportation industry strong and competitive.**
4. **Ensure that the transportation system supports public safety and national security.**
5. **Protect the environment and the quality of life.**
6. **Advance U.S. transportation technology and expertise for the 21st century.**

1. Maintain and Expand the Nation's Transportation System

The transportation infrastructure is vital to the Nation's economy, and it must serve the needs of all Americans, including the young and old, minorities, disadvantaged and disabled individuals, and people living in urban and rural communities. There are increasing signs, however, that the system is beginning to break down. We cannot afford inadequate, inefficient transportation.

The Federal Government is committed to maintaining transportation infrastructure and providing the tools, incentives, and flexibility for State and local governments and the private sector to renew the capacity and performance of the transportation system. The Department is particularly committed to reducing congestion in the aviation and highway systems by fostering improved management and use of key transportation facilities, new technology, and capacity enhancements.

To achieve the transportation system the Nation needs for the future, we must recognize the changing Federal, State, and local roles. The Federal Government must concentrate more of its transportation resources on facilities and projects that advance the performance of transportation systems of national significance. Within Federal-aid programs for transpor-

tation, grant recipients must be provided the flexibility to achieve diverse transportation goals through broad, multi-purpose programs. Rigid project requirements can be replaced with performance criteria.

The most immediate task for the transportation sector is to maintain the assets we have. If facilities are not kept in sound condition, they cannot support the level of operations they were designed to handle. The Federal Government will help to address this issue by emphasizing capital maintenance in Federal-aid programs. Federal-aid recipients, in turn, will have to make a commitment to preserving critical elements of the infrastructure by, for example, instituting comprehensive plans for managing capital assets and maintaining facilities.

Rush hour on Interstate 5, Seattle, Washington.

UNIPHOTO

To use the Nation's resources most effectively, we must improve management of existing and new transportation facilities. The Department is particularly committed to implementing the National Airspace System Plan and installing a new generation of air traffic control. In urban and intercity travel, Department programs will encourage system management improvements, peak-period pricing, and other initiatives to reduce congestion.

Federal transportation assistance must be structured so that it does not encourage unnecessary or unwise investment. Programs must allow for a broad range of options, permitting investment in cost-effective projects that enhance capacity or make better use of existing resources, such as high-occupancy vehicle lanes for carpools and buses. However, to meet long-term transportation needs, the Nation must anticipate and plan for expansion of our current transportation system. In partnership with State, local, and private interests, the Department will support construction of new facilities and new capacity on existing facilities to address priority national needs in the transportation network.

Smooth, efficient travel depends on good connections between different parts of the transportation system. For example, many freight movements rely on connections between railroads and ports, while intercity passenger travel often requires links between airports and ground transportation. Improved connections, particularly among intercity, urban, and rural systems, will contribute to sounder, more efficient transportation.

We need to reduce congestion in the aviation and highway systems through improved management and use of key transportation facilities, new technology, and enhanced capacity.

PIC INTERNATIONAL

2. *Foster a Sound Financial Base for Transportation*

We must ensure that the necessary funds will be available to support our transportation system. There will be increasing demands for investment in transportation to keep up with rising costs and emerging national transportation system needs, and the necessary funding will have to come from a variety of sources. The Federal Government is prepared to provide the leadership, in partnership with State and local governments and the private sector, to assure an adequate financial base for transportation.

Greater reliance on user charges is the key element in financing the Federal share of transportation expenditures.

The Federal Government will emphasize reliance on user charges as the key element in financing the Federal share of transportation expenditures. The user charges paid into transportation trust funds must be dedicated to transportation to preserve the integrity of the trust funds and the user fee concept and to serve critical transportation needs.

The Department is proposing to institute user fees to recover the costs of Federal railroad safety and Coast Guard inspection activities and to increase the Federal aviation program and improve cost recovery for Federal aviation activities. The Federal Government must also continue to review the structure and level of Federal transportation user charges to ensure that they provide adequate and equitable cost recovery. In addition, where groups of users who benefit from facilities or services supported by Federal funds do not pay fees, the Federal Government should determine whether there is an efficient method to recover Federal costs from them.

We must stimulate increased investment in transportation by State and local governments and the private sector by expanding the range of available tools and choices. Federal policies should provide greater incentives and increased flexibility in financing for other levels of government and the private sector. For example, local passenger facility charges at airports and tolls on highways offer significant potential as financing mechanisms where there is heavy travel demand. Federal policy should relax restrictions on the use of such mechanisms. In addition, State and local governments and the private sector need greater flexibility to employ innovative financing techniques, such as benefit assessments, joint development rights, and other means of capturing the value of transportation investments in fees assessed on the private firms that benefit from transportation services or facilities.

Continuing and substantial infusions of private capital will be required to sustain the performance of the transportation system.

Continuing and substantial infusions of private capital will be required to sustain the performance of the transportation system and accommodate increasing traffic. While government bodies at all levels must encourage and welcome private investment in transportation, many laws and policies deter such participation. Future policy must minimize barriers to private participation in the ownership, planning, financing, construction, maintenance, and management of transportation facilities and services, while encouraging State and local governments to do the same.

3. Keep the Transportation Industry Strong and Competitive

The efficiency and competitiveness of transportation providers are essential to economic growth and productivity and the ability of the United States to compete in the world market. Providers of transportation service can meet transportation needs most efficiently if they have the latitude to respond to demand and if they are competing on an equitable basis. Federal programs and policies must treat modes and carriers fairly, and avoid unnecessary restrictions that hinder efficient transportation operations. We must remove the barriers that impede efficiency and restrict the free flow of interstate and international commerce, and work to ensure that policies do not unfairly provide competitive advantages to one mode over another.

Transportation deregulation has been a notable success. We must build on that success by eliminating remaining economic regulation of trucking and other transportation industries where regulation is unnecessary and outmoded. We need greater uniformity in the State motor carrier registration and taxation procedures. Federal requirements that place unique and burdensome costs on carriers should be repealed, including a variety of archaic labor requirements that prevent the railroads from operating efficiently and competing on an equal basis with other modes. We must develop a balanced approach for aviation that reduces aircraft noise and takes into account both the needs of interstate commerce and the desire of local areas to limit aircraft noise.

Economic regulation of trucking and other transportation industries should be eliminated where regulation is unnecessary and outmoded.

The principles of market competition must be brought to bear in transit programs to improve performance and reduce costs. The Federal Government must also achieve greater consistency and flexibility in rural transportation programs. In intercity rail passenger service, Amtrak has made considerable progress toward improving efficiency and reducing its subsidy requirement. Under current budget constraints, no Federal funding is proposed for Amtrak in FY 1991, but the Administration is eager to work with the Congress, Amtrak, and other interested public and private parties to determine how best to obtain needed investment from the private sector and to make Amtrak services more cost-effective.

The U.S. merchant marine must be more competitive if it is to survive and support national security needs. That effort must begin with a reexamination of Federal maritime programs, including reform of the Operating Differential Subsidy program. The Federal Government must also actively pursue agreements to improve access to international markets for U.S. carriers in all modes and redouble our efforts to eliminate practices that discriminate against U.S. maritime, air, and motor carriers, inhibiting operations and sapping our carriers' competitive strength. In the newest element of the transportation system, commercial space transportation, the Nation should work to foster the development of a vigorous industry.

A well-qualified workforce is critical to building, managing, maintaining, and operating the transportation system. Federal, State, and local governments must work with private industry to assure effective recruitment and training for the transportation work force, especially minorities and women, disabled citizens, and economically disadvantaged individuals.

4. Ensure That the Transportation System Supports Public Safety and National Security

Safety remains the top priority of the Department. Across all modes, the Department will expand efforts to improve public safety and security, through better driver and operator training in all modes, increased public awareness of transportation safety matters, more effective anti-drug and alcohol programs, improved vehicle designs, and effective regulation of hazardous materials movements.

Safety remains the top priority of the Department.

By far the greatest number of transportation-related accidents each year occurs on the Nation's streets and highways. More than 47,000 people died on our highways in 1988. We cannot tolerate such senseless loss. The Federal Government is committed to a broad, cooperative, and multifaceted campaign to reduce the highway death toll and to meet the President's safety improvement goals.

The aviation system faces major challenges to its consistently high safety record: revolutionary changes to aircraft and other aviation technology, the pressure increasing travel demand has placed on aviation system capacity, substance abuse within the work force, and terrorist acts against aviation operations. The Department will take a number of actions, including modernization of the air traffic control system, to ensure that rising demand does not compromise the safety of the system. The Department will also provide leadership in addressing human factors issues that affect aviation safety.

The Coast Guard conducts full-scale training exercises to prepare for fires and hazardous materials accidents.

The Department has many other safety responsibilities. Safety on the waters is the major mission of the U.S. Coast Guard. The Department will assure that shipments of hazardous materials by water, highway, railroad, and pipeline do not pose a safety hazard to nearby communities, and that the transportation system is prepared to withstand natural disasters, such as hurricanes and earthquakes. In addition, the Department, working with other agencies and industry, must maintain vigilance to detect and interdict movements of illicit drugs, and prevent acts of terrorism against transportation at home and abroad.

During peacetime and wartime, the Nation's civilian transportation system and the U.S. Coast Guard are vital to supporting national defense. The Department is committed to working with the Department of Defense to identify national defense transportation needs and assure that they are met. In particular, a viable and competitive merchant marine is essential to meeting the Nation's military sealift requirements, and the Departments of Transportation and Defense must work together to implement the President's National Sealift Policy.

5. *Protect the Environment and the Quality of Life*

Federal transportation policy must support national efforts for environmental protection. We must continue to protect our air, water, and land resources and the long-term health and well-being of citizens. For example, the Nation must take stronger steps to reduce vehicle emissions, as proposed in the amendments to the Clean Air Act advanced by the President.

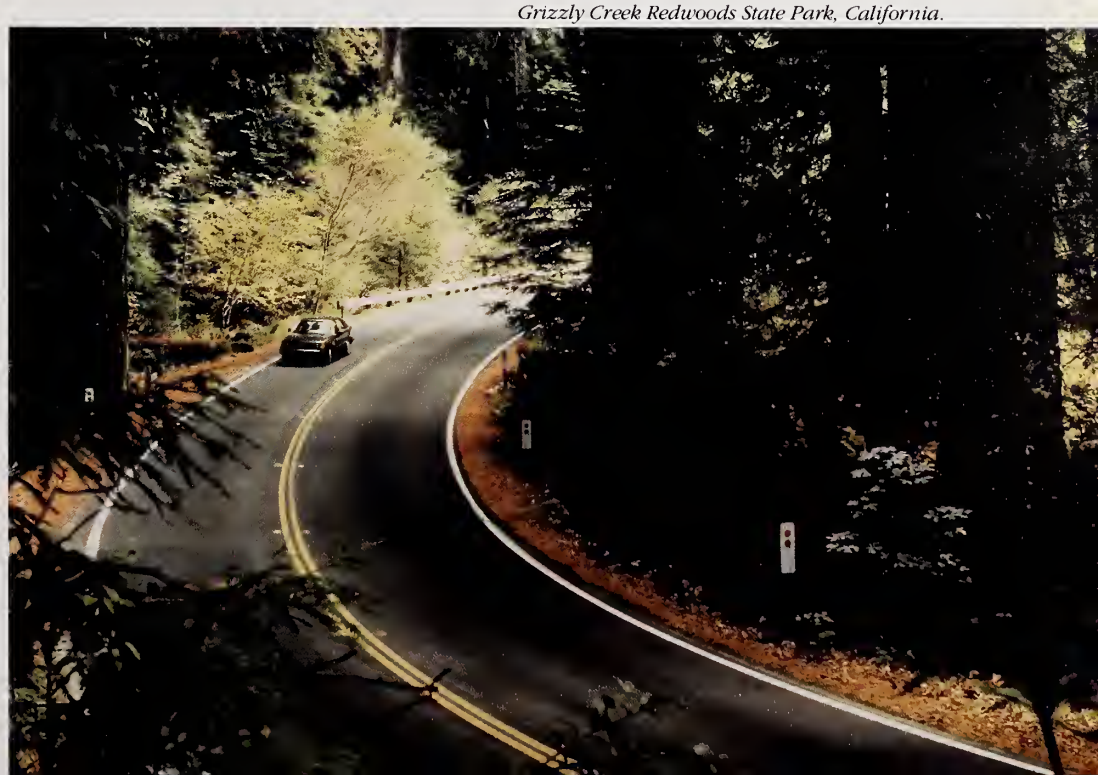
Federal transportation policy must support national efforts for environmental protection.

Many parties will have to work together to achieve more effective application of vehicle emissions control technology, reduce the release of toxic chemicals into the environment during transportation, comprehensively address issues related to global climate change and environmental degradation, and implement a "no net loss" goal for wetlands.

Catastrophic oil spills like the *Exxon Valdez* disaster must be prevented, and quick and effective response must be assured for those spills that do occur. The Federal Government must ensure that the necessary rules are in place to achieve safe, effective transport of crude oil and petroleum products. The Department is committed to working with State, local, and regional officials, to develop improved and more consistent contingency planning procedures to respond to oil spills.

An improved quality of life requires increased mobility and access; this is especially true for the transportation disadvantaged and those who are elderly and disabled. All Americans have the right to enjoy the benefits of transportation, and we must assure that transportation services and facilities accommodate their needs. This includes working with private carriers and public transportation agencies in preparing plans or standards for assuring that their vehicles are accessible to disabled passengers in a timely and cost-effective manner.

Grizzly Creek Redwoods State Park, California.



6. *Advance U.S. Transportation Technology and Expertise*

The United States has a long and proud history of breakthroughs in transportation technology and innovations in transportation management and operations. We must renew and strengthen our focus on technology and innovation if we are to meet the expectations and needs of the Nation and maintain U.S. technological leadership in the world. Although many of the resources, the imagination, and creativity necessary to support transportation advances will come from the private sector, the Federal Government can play a key role in increasing the awareness of technological needs, and can serve as a leader and a catalyst for research, innovation, and expertise.

We must renew our focus on technology and innovation.

The opportunities to improve transportation through research and innovation are many. An intensive national program of research into human factors in transportation will lead to major breakthroughs in efficiency as well as safety. Improved data, communications, and information technology, innovative management and financing techniques can make a significant contribution to the efficiency and performance of the transportation system. Research on methods of reducing vehicle noise and air pollution must also be a significant focus of attention.

Although technological advances alone cannot solve our transportation problems, new forms of freight and passenger transportation offer exciting potential for the future. In cooperation with State, local, and private groups, the Department will foster research, evaluation, and demonstration of promising new technologies to carry travelers in high-density intercity corridors, including such options as high-speed rail, magnetically levitated trains, and tiltrotor aircraft. The Administration will also work with State and local governments and private industry to develop "intelligent vehicle/highway systems" that integrate the latest computer and communication technology to improve the safety and efficiency of our highways.

The Department will foster research, evaluation, and demonstration of promising new technologies.

Many other Federal initiatives are underway that will affect motor vehicles. DOT will work actively with other Federal agencies involved in research on automobiles and other motor vehicles, to improve fuel efficiency, reduce vehicle emissions, promote alternative fuels, and increase design safety, occupant protection, and crashworthiness of vehicles.

Transportation innovation relies upon effective dissemination of information and research results. The Department is committed to enhancing and making more widely available transportation data and research results, and reinforcing the program of transportation research in the Nation's academic and business communities. Greater awareness of the opportunities and challenges in transportation and improved transportation education are both vital to the effort to build transportation expertise in the 21st century.

The Department is in a unique position to learn of and share information about innovative transportation technologies and operations being developed around the world. Through its cooperative programs with other countries, the Department will step up its efforts to make certain that the U.S. transportation community is aware of and has access to emerging technological advances.

Where Do We Go From Here?

It is critically important to begin immediately the national effort to implement this transportation policy. Major reauthorizing legislation will be enacted in the near future to ensure that the Federal Government can carry out its obligations to provide safe and adequate airport and airspace operations, to sustain a safe and adequate national network of highways, and to support vital urban mass transportation systems. Other legislation will be proposed by the Department to address key concerns involving railroad, merchant marine, Coast Guard, and safety functions. During this year, the Department will also begin pursuing a number of important regulatory policy changes, many of which will require new legislative authority.

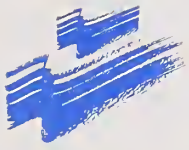
Much can be done to achieve national transportation policy objectives by redirecting the resources and endeavors of the Department of Transportation. During this year and in following years, the Department will work to ensure that this policy is fully implemented. As years pass, the results of these initial efforts will be available to support future decisionmaking.

For the longer term, the Federal Government must maintain the mechanisms for integrating ideas from all parts of the transportation community that have worked so well to support development of this policy. The Department of Transportation will establish a continuing strategic planning capability to carry on the forward-looking, multidisciplinary, multimodal approach to transportation that this process has fostered.

We must make wise use of existing resources and launch longer term efforts to put new systems and facilities in place. The Department will ensure that programs and individual actions fit within a sound overall national policy framework and that those programs and actions remain sensitive to the changing conditions and needs the transportation system is facing. The Nation must invest today to meet tomorrow's transportation needs.

Future space planes could carry passengers anywhere in the world in a matter of hours.

Chapter I
Challenges and Opportunities



The Nation's vitality has always been linked to mobility—from immigrants coming to our shores to wagons moving West, rail lines spanning the continent to ships and planes fanning out across the oceans, and now vehicles racing into space. Transportation is an engine for economic growth, and a link between the regions and the businesses and the people of the Nation and the world. Americans have moved farther, gone faster, and made more progress as a nation than any other society in history. As we enter the 21st century, our transportation system, the symbol of that movement, will drive our growth, foster our freedom, and signal our success in forging solutions to the social and economic challenges we face. America's success in building and developing transportation is a proud accomplishment. Through our combined talents and resources, imagination and innovation, transportation will be tomorrow—as it has always been in the past—integral not only to the way we live but also to building a better America for the future.

What We Have Achieved

After more than 100 years of industrial and technological development, the United States has a mature transportation industry. The basic technologies for railroads, shipping, highway vehicles, and mass transit were developed decades ago, and those systems are well established today. The array of airports that began in the early days of commercial aviation in the 1930's served 90 million flights in 1988. In 1956, President Dwight D. Eisenhower initiated the National System of Interstate and Defense Highways—our "Interstates"—for the first time creating a unified network of roadways designed for high-speed, efficient, safe motor vehicle travel across the country. Today, that system is virtually complete.

Now the focus must shift from building the Nation's basic transportation systems to adapting and modernizing transportation facilities and services to support economic growth, meet the competitive demands of the international marketplace, contribute to our national security, and improve the quality of life for all Americans.

The Challenges We Face

Our transportation system faces great challenges in coming decades—increased competition in the world economy, Federal budgetary constraints, growing demand for mobility, an aging population, and continued shifts in urban and regional settlement patterns.

Demands on Transportation Are Growing and Changing

We are seeing new and far more complex patterns of trade and commerce, which drive transportation demand. The U.S. economy is increasingly dispersed, with the rise of more service-based industry, the spread of population and commercial and industrial activity into suburban and rural areas, and the emergence of centers of growth and development in the South and West to match the North and East. Beyond the growth and shift in population, different lifestyles and the trend toward smaller households generate diverse mobility needs. Not only are transportation policies and investments influenced by these patterns, but transportation also plays a major role in reshaping the patterns.

As job markets shift and households relocate to different parts of the country, family circles stretch across the continent and people travel longer distances for personal as well as business trips. The increasing number of people vacationing and working in other countries has the same effect on international travel: airlines have seen huge growth in the number of passengers moving between the United States and Europe, Asia, and other continents. In business and industry, domestic companies that span the country and multinational corporations that span the globe require long-distance passenger travel and also change the patterns for movement of freight around the world. Exports account for a substantial and growing share of annual U.S. production, while imports from other countries are playing an increasing role in U.S. markets. Such cargoes must be moved across the oceans and across our borders, in most cases by more than one mode. Not only basic transportation services but also intermodal connections have to work smoothly, requiring a shift in traditional ways of doing business.

Long Island Railroad, New York.

Our growing population, changing patterns of economic activity, different lifestyles, and the trend toward smaller households generate diverse transportation needs.

Competition Creates Increasing Pressure for Productivity

Along with the aging of the population and the slowing growth in the work force, the challenges of global competition place an increasing premium on productivity gains to maintain the U.S. standard of living. The move toward a single integrated European market in 1992 highlights the importance of remaining efficient and competitive. The tearing down of the Berlin Wall and the opening up of Eastern Europe create entirely new trade dynamics and new opportunities. Strong international competition and domestic competition increase the pressure on all industrial sectors to improve efficiency, maintain high-quality goods and services, and save on costs and resources. The consequence of not staying competitive will be to lose business to foreign rivals and reduce the standard of living in the United States.

For manufacturers, the competitive pressures have created a movement toward "just-in-time" production: to cut the cost and inefficiencies involved in holding large levels of inventory, goods do not arrive until just before they are needed in the manufacturing process. For carriers, this means an increasing emphasis on fast and reliable service. Leaner industrial operations dictate leaner transportation service and increasing flexibility in both sectors to accommodate change on short notice.

Transportation providers must also adapt to natural resource constraints and costs. Energy is only one precious resource to be conserved. Scientists warn that for the short term and the long term, we must protect our air, water, and other natural resources if we are to have a livable environment for the future.

Lifestyles Are Altering Attitudes and Expectations

Many economic and technological changes are transforming the day-to-day life of American households and altering the demands and challenges facing the transportation sector. Increased awareness of other people and places and increased global economic activity create a greater interest in travel and greater demand for cargo movement to world markets. At the same time, Americans share a greater sensitivity to the importance of the environment and the close interaction between transportation activities and air and water pollution, as well as the use of energy and other environmental resources.

Changes in the relative technical and financial capabilities of the Federal, State, and local governments and private interests, evolving institutional traditions, and competing priorities for resources have also altered people's expectations and focused attention on the roles of the private and public sectors. Changes in attitudes and expectations affect transportation along with the other functions of the economy and of government.

The Opportunities to Transform Transportation

As we move toward the 21st century, there are many opportunities for the Nation and for transportation, including new technology and innovative management and financing techniques in both the private and public sectors. Advances in human factors engineering, microelectronics, computer technology, and new materials offer considerable promise for improving transportation construction and operations.

New Transportation Technology

We may soon see "intelligent vehicles" operating on "intelligent highways" that permit monitoring the location of traffic, guiding vehicles to less congested routes, controlling their speed, maintaining vehicle spacing, and reducing delays and accidents. Within the next 30 years, these systems may evolve into full-scale automated highways.

For trips of 100 to 500 miles, electric-powered, high-speed rail or magnetically levitated trains, already in operation or under development in Europe and Japan, may provide an economical alternative for passengers to move directly between major city centers in heavily traveled corridors. These technologies would also help reduce the Nation's dependence on petroleum fuel. Tiltrotor aircraft, which combine the helicopter's capacity for vertical takeoff and landing with the comfort and cruise efficiency of turboprop airplanes, have also been proposed as a way to move people between relatively close cities. For long-distance international travel, a new generation of long-distance aircraft traveling at more than five times the speed of sound is on the drawing boards.

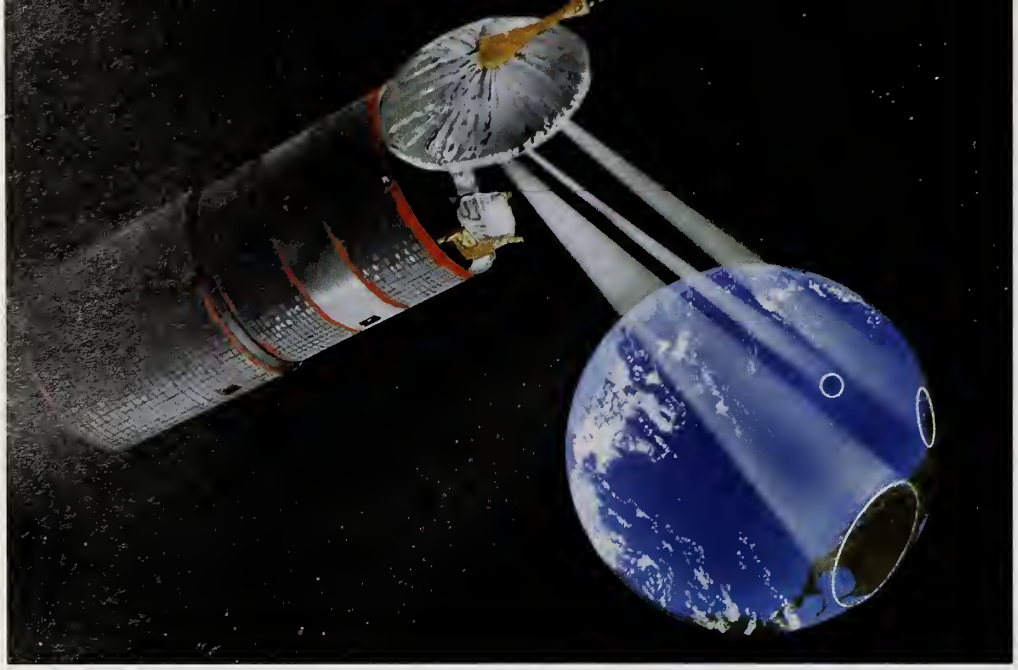
The new systems we develop will supplement but not replace the systems we are using today. Technical improvements will continue to be made to familiar transportation systems and vehicles to make them safer, more fuel efficient, environmentally less damaging, and more economical to operate. For example, improvements are being developed for freight transportation, including faster, more fuel-efficient ships, railroad locomotives and equipment, and more fuel-efficient and lower emission trucks.

Advances in Telecommunications

Dramatic developments in telecommunications, many of which are still unfolding, are transforming and improving the efficiency of transportation and creating new opportunities, such as "telecommuting." At home and in business, new applications of video and data technology—computer networks, facsimile machines, telephone conferencing—are opening a wide variety of options, allowing decentralized business operations and permitting more people to work at home and conduct other activities with less travel.

U.S. airlines rely on sophisticated computer networks and telecommunications systems to handle over 400 million passengers annually.

JOHN McDERMOTT



From 20,000 miles above the Earth, satellites are tracking the position of containers, ships, airplanes, trains, and trucks.

Computer and telecommunications technology have led to unprecedented gains in the ability to organize and manage transportation operations streamlining travel reservations and billing, facilitating customs procedures, expediting documentation of freight shipments, tracking goods, and dispatching vehicles. The United States has led the world in developing a satellite-based Global Positioning System to check the position of vehicles and cargoes in the air, on the highways and railroads, and in shipping lanes. Yet we have only just begun to tap the potential of electronics to help route vehicles more efficiently and safely. Improved communications through electronic data transmission are producing better information, greater control of vehicles and systems, and increased efficiency. We will soon see fiber optics transmit electronic data and images across the country at a speed equivalent to 50,000 typed pages per second. New high-performance computing systems will permit the calculations necessary for more sensitive weather forecasting and will improve the control and operation of advanced aircraft.

Innovations in Management and Financing

Innovative approaches to managing and financing transportation are emerging that offer great promise for improving the efficiency with which we use our transportation system and for attracting additional investment to transportation. State and local governments and the private sector are finding new ways to work together to solve their shared transportation problems. For example, many State and local governments across the country are working with the private sector to build new highways as toll roads, with private sector involvement that ranges from financing and managing construction to owning and operating the roads. Innovations in air cargo and parcel delivery services set the standard for other transportation providers. Improved techniques for operating and marketing transportation services have been introduced in the 150-year old railroad industry. Integration of trucking companies, shipping lines, and air carriers has improved the

productivity and attractiveness of many services. Public transportation is following the lead of other industries with new types of services and fares to increase revenues and ridership; major corporate employers are working with transit systems to encourage employees to use transit. "Value capture" is being used more widely so the public sector can, as the term implies, capture some of the value of investment in highways and transit systems through special assessments on adjacent land and businesses that can be returned to the transportation system. Both the public and private sectors continue to find that pricing can be used in new ways to deal with peak-hour congestion and other transportation problems.

A Vigorous Private Sector

The vigorous, competitive transportation industry continues to be the preeminent source of the mobility that Americans enjoy and the major source of innovation and advances as we look to the 21st century. The flexibility and diversity of the U.S. economy allow private companies and individuals to adapt efficiently and quickly to the demands of consumers and the entire economy.

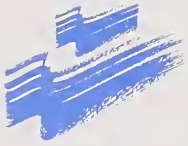
Since the late 1970's, transportation providers have been released from many of the hobbles of Federal economic regulation, unleashing creative and competitive energies in the transportation industries on a scale not seen since the boom years when railroads, planes, and motor vehicles were new. In the 1980's, previously regulated transportation companies across all modes have introduced innovations in service, route systems, fares, and operating strategies unprecedented in modern transportation history. They have become more efficient, as they now have the incentive and the flexibility to pursue productive and profitable investments—investments to meet service demands and also to help make their operations safer.

Traditional distinctions and barriers between modes and types of service are being broken down, spurring improvements and cost reductions in transportation service. That process will continue as Federal, State, and local barriers to more efficient, service-oriented transportation are eliminated. One of the greatest opportunities for improving transportation efficiency and service in the future lies in allowing market forces to work, minimizing government intervention, and increasing flexibility for the private sector.

The Tradition of an Intergovernmental Transportation Partnership

Transportation has benefited from a long tradition of Federal-State-local partnership, a partnership that has built and maintained most of our transportation system. That partnership represents a foundation we can build upon to create the transportation system we need for the future.

Gate A
Restrooms
Gate B-L
Parking Garage
Taxis
Baggage Claim



Chapter II
America's Transportation Concerns

Transportation touches the lives of all Americans—it affects their economic well-being, their safety, their links to other people and other places, the quality of their environment, their access to education and cultural activities, and their security at home and abroad. When transportation does not work well, it can be a source of great personal frustration and economic loss. Safe and efficient transportation, by contrast, supports the freedom and opportunity Americans have always cherished.

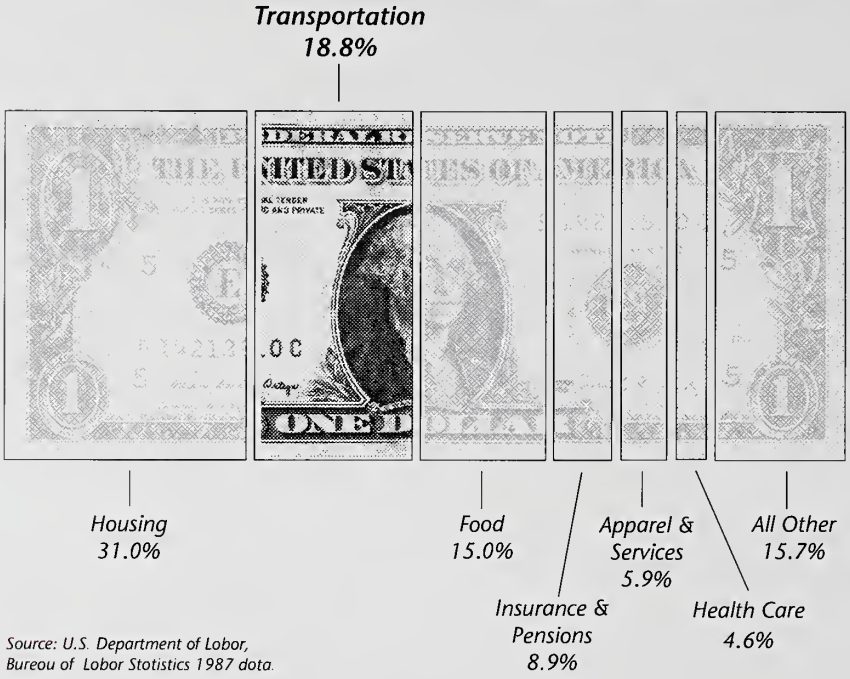
Americans spend nearly $800 billion for transportation products and services annually. In one year, the U.S. records 3.5 trillion passenger-miles of travel and 3.4 trillion ton-miles of freight traffic. Transportation and transportation-related businesses employ one-tenth of America's work force. Transportation is also by far the largest user of petroleum in the country and a major source of urban smog and "greenhouse" gases that affect the global environment. And transportation accidents result in almost 50,000 deaths in the United States annually.

An understanding of what Americans want from their transportation system is as important to the formation of transportation policy as analysis of facts and figures. To gain a better understanding of how Americans view the transportation system, Secretary of Transportation Samuel K. Skinner launched a nationwide outreach effort in July 1989. In public hearings, focus group sessions, seminars with transportation experts, numerous informal discussions, telephone calls, letters, and reports, Americans across the country voiced their thoughts. The Department heard from every segment of American society—from those who live in cities, suburbs, small towns, and Indian reservations; from bicyclists, transit riders, railroad travelers, boaters, auto users, and frequent flyers; from retirees and disabled citizens; from those who labor in transportation and those who invest in it; from transportation providers; from freight shippers and brokers; from industry groups and associations of all kinds; from university professors, scientists, and transportation planners; and from public officials who face transportation issues in local, State, and Federal Government.

"I want to develop a transportation policy statement that responds to the needs and desires and hopes of Americans across the spectrum. One thing I feel very strongly about is that we're all in this together. We can have a great transportation system if we work together—and only if we work together."

Samuel K. Skinner
Secretary of Transportation

Transportation as a Share of Consumer Spending



Source: U.S. Department of Lobor,
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The views expressed during the hearings and in writing were as diverse as the people who expressed them; they cut across markets and modes and occasionally generated strong disagreement among those who spoke at hearings. Many of the participants directed their comments to shortcomings or problems they perceived in the transportation system. However, even when they cited problems, people generally reinforced the view that the U.S. transportation system and the principles underlying it are fundamentally sound. Most comments recognized the importance of the private sector and market forces in transportation. Although many participants in the outreach hearings looked to the Federal Government for guidance and leadership in addressing transportation issues, their comments also clearly revealed the value and necessity of State, local, and private sector involvement and responsibility for many functions in transportation. Many examples of innovative State, local, and private sector transportation projects and initiatives were mentioned by outreach participants. Some of these are highlighted in the following sections.

Those who participated in the hearings and those who submitted written comments provided valuable insights that, together with other information about transportation conditions, trends, and needs, contribute to the national transportation policy presented in the next chapter. This chapter summarizes transportation issues and concerns within the six policy themes of this national transportation policy statement.

Maintain and Improve America's Transportation System

Across all markets and all parts of the country, the transportation issues raised most frequently were the condition of the transportation infrastructure and demand for greater capacity.

Preserving the Infrastructure

Many participants in the Department's outreach process expressed concern about the state of repair of highways, bridges, and other facilities in the transportation system. As Americans have increased their reliance on highways for both passenger and goods movements, the highway infrastructure has deteriorated faster than originally anticipated. Transportation planners and engineers point out that much of the highway infrastructure is nearing the end of its economic service life and needs major rehabilitation or replacement. For example, according to Federal Highway Administration statistics, 23 percent of the 575,000 highway bridges in the United States are structurally deficient and another 19 percent are functionally obsolete.

Many of those who participated in the outreach process share the view that the condition of the transportation infrastructure has a direct effect on U.S. productivity. An economist with the Federal Reserve Bank of Chicago cited data suggesting that higher levels of investment in infrastructure of all kinds are associated with higher rates of productivity growth. He compared the United States to Japan, a country that has made large investments in infrastructure and has experienced high productivity growth. However, he and others cautioned that many other factors influence productivity and that more evidence is needed to understand when and how public and private infrastructure investment can help improve productivity on a national scale.

Using What We Have

Americans recognize the value of the investment the Nation has made in transportation facilities and vehicles, and the importance of getting the most from that investment before spending to create new capacity. Throughout America, people have ideas for ways their communities, transportation operators, and transportation users could get better use of the existing transportation system—for example, by using suburban shopping center parking lots for park-and-ride commuting, adopting flexible work-hour schedules, synchronizing traffic signals for more efficient traffic flow, improving transit schedules and encouraging greater transit ridership, giving preference to high-occupancy vehicles in highway and air transportation, and increasing use of railroads.

"In 1956, the interstate highway system and the trust fund captured the Nation's imagination and—with energy and engineering skills—built magnificent highways and bridges across the countryside. But that was the past generation's program. Our generation will be known not for what we have built, but for what we will maintain."

Ross Sandler
Commissioner,
New York City Department of Transportation

Increasing Capacity

Traffic congestion is a growing problem for many cities and suburbs. In 1987, 65 percent of peak-hour travel on urban interstates experienced congestion, up from 61 percent just two years previously. Many people complain of increasing traffic congestion in the suburbs on weekends and during the middle of the day. Business and leisure travelers experience delays in air travel. The extent of this congestion has been estimated by the Federal Highway Administration and the Federal Aviation Administration:

- Highway travel delays in urban areas now total more than two billion hours annually, costing billions of dollars in lost working hours and economic production.
- 21 primary airports each now experience more than 20,000 hours of annual flight delays at a yearly cost to airlines and U.S. businesses of at least $5 billion; by 1997, 33 airports are forecast to experience this level of delay.

"Many suburbs have encouraged land development patterns that are proving difficult to serve..."

Sara LaBelle
Illinois Chapter,
American Planning
Association

33 Airports Forecast to Exceed 20,000 Hours of Annual Delays in 1997

Assumes currently planned capacity improvements are made
Source: Federal Aviation Administrotion

To relieve congestion, the public and private sectors are combining their resources and expertise to enhance transportation capacity. Alliance Airport, located outside Dallas, Texas, offers one example of cooperative private, State, and local efforts to build new facilities to accommodate cargo and passenger transportation.

Alliance Airport
North Tarrant and South Denton Counties, Texas

Alliance Airport, opened in December 1989, is a new general aviation and air freight facility built to ease the crowding at Dallas-Ft. Worth International Airport. The development of the airport demonstrates a forward-thinking approach to planning and providing needed transportation capacity. Cooperation among private businesses and State, local, and Federal governments allowed the airport to be built quickly. A creative financing arrangement combined a private land donation, State-local-Federal construction funding, and *ad valorem* taxes on business revenues to cover airport operating and maintenance costs. By attracting air cargo and general aviation flights from other airports, Alliance will relieve airport congestion in the region and generate new business and jobs.

Improving Connections

During the outreach, many people expressed a desire for transportation providers and government agencies to provide better connections among different forms of transportation. They urged a greater intermodal or multi-modal perspective on the part of both transportation companies and government agencies, citing a common tendency to concentrate on a single mode without considering the interaction with other modes. People also highlighted the growing potential for intermodal transportation of both goods and passengers. Many called for coordinated efforts by transportation operators and local officials to ease transfers between rail and bus, urban transit and longer distance travel, and air and ground transportation.

Many of the comments about the importance of effective transportation connections came from residents of rural areas. Residents of the Appalachian region cited the need for improved roads to provide the access required for economic development. Farmers in the Midwest noted that links among trucks, railroads, and ports are necessary to move grain and agricultural goods from the farmlands to markets. Other rural citizens described how better connections to intercity buses, railroads, and airlines could improve their access to metropolitan centers. Representatives of State and local governments emphasized that greater flexibility in transportation funding programs would improve their ability to develop better links among transportation systems.

Planning Better

To address both immediate and long-range transportation needs, many concerned citizens and public officials called for more and better transportation planning. They emphasized the need for greater sensitivity on the part of local and regional officials to emerging development patterns and transportation demands and a stronger link between planning and transportation decisions. Transportation professionals also indicated that the amount of data available for planning purposes has declined in recent years and that it is important to have more comprehensive and up-to-date information at all levels to support sound transportation decisions for the future.

"We are no better than the information we use to make decisions."

Pete Corpstein
Chairman,
Committee on Transportation,
Arizona State Senate

Provide Adequate Financing for Transportation

Many participants in the outreach process stated their belief that the United States as a society has not given sufficient emphasis to our transportation infrastructure and that more investment will be necessary to build and rehabilitate transportation facilities to meet future demand. Estimates of future transportation investment needs vary widely, depending particularly on the different assumptions underlying the projections, but all of them exceed current levels of spending. Those who participated in the outreach do not expect these needs, whatever their level, to be filled by a single, all-purpose source; rather, a variety of public and private sources for financing transportation improvements were mentioned.

Increasing Reliance on the Private Sector

There is widespread recognition that the United States will need to rely more on the private sector to finance facilities and services in virtually every area of transportation. During the outreach process, public officials from several States offered examples of successful private investments in transportation. Local governments are also turning to the private sector to provide public transportation services. Many participants in the hearings encouraged greater use of innovative financing approaches, including private financing initiatives and joint ventures by private companies and State and local governments. New projects to build toll roads through public-private cooperation and financing were mentioned frequently.

"Funding must be sought outside of the traditional governmental process by looking to public-private partnerships with commensurate shared responsibility."

Robert Aaronson
President,
Air Transport Association

Toll booths at approach to Golden Gate Bridge, San Francisco, California.

PHOTO RESEARCHERS

Toll Roads
Orange County, California

A public-private partnership has been formed in Orange County, California, to build three state-of-the-art toll highways. In the face of growing congestion and constraints on public funding, the County plans to build the roads with a combination of Federal, State, County, and private sector funding. Landowners adjacent to the new roads are already paying special assessment fees to help cover a significant share of the road costs. Public revenue bonds will also be issued, to be repaid from tolls to be collected from motorists who use the roads. New toll-collection technology will be used to eliminate the need for most vehicles to stop to pay the toll. Regular users can prepay a set amount, then place a coded card in their car window. As these vehicles pass each collection point, the tolls will simply be deducted from the prepaid amount, until owners are notified that they must replenish their accounts.

Using the Trust Funds Effectively

Industry representatives and transportation users expressed concern about how the transportation taxes they pay are used. Many participants in the Department's outreach process spoke of restoring the "trust" in the Federal transportation Trust Funds by devoting Federal transportation excise taxes and user fees solely to transportation purposes. Few people recognized, however, that Federal spending out of the Highway Account of the Highway Trust Fund has exceeded Federal receipts from highway users into that account over the last decade. For transit and aviation, there has been significant Federal spending from general Treasury funds, in addition to the transportation trust funds; if General Fund support is included, Federal expenditures have greatly exceeded user fee receipts for those forms of transportation as well. Failure to recognize these points has contributed to the misconception that transportation users have not seen Federal transportation investments commensurate with the user fees they pay.

"Where user fees are appropriate, collect them. But if they are to be collected, use them."

Margie L. Crace
President,
National Business Travel Association

Stimulating Private Investment Through Tax Policies

Federal tax policies can have a considerable effect on transportation financing. Private transportation companies increased their investment in physical plants substantially under Federal tax laws in the 1980's. On the other hand, some participants in the outreach process suggested that current tax policies, such as those on debt versus equity financing, can make it more difficult to raise money for capital-intensive transportation ventures.

Improve Competitiveness and Efficiency in Our Transportation Industries

Competing in the World Market

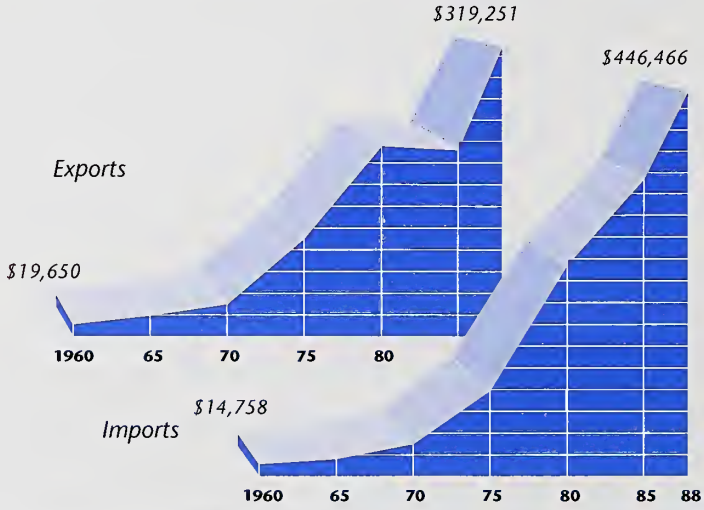
American shippers and transportation providers are increasingly concerned about the pressures of global business competition and the need to strengthen American transportation to remain competitive in international trade. In the policy outreach process, shippers and carriers alike urged the Federal Government to repeal outdated rules and requirements that make it difficult for U.S. transportation providers to control their costs and attract business. This is of particular interest in the 1990's, with the upcoming 1992 unification of one of the United States' biggest markets and most powerful competitors, the European Economic Community.

"We are watching EC'92 with great concern....We need a regulatory policy that favors the marketplace and that also allows us to respond quickly to change."

Woody Price
Corporate Vice President,
Federal Affairs,
CSX Corporation

Growth of U.S. Exports and Imports of Merchandise

(Millions of Dollars)



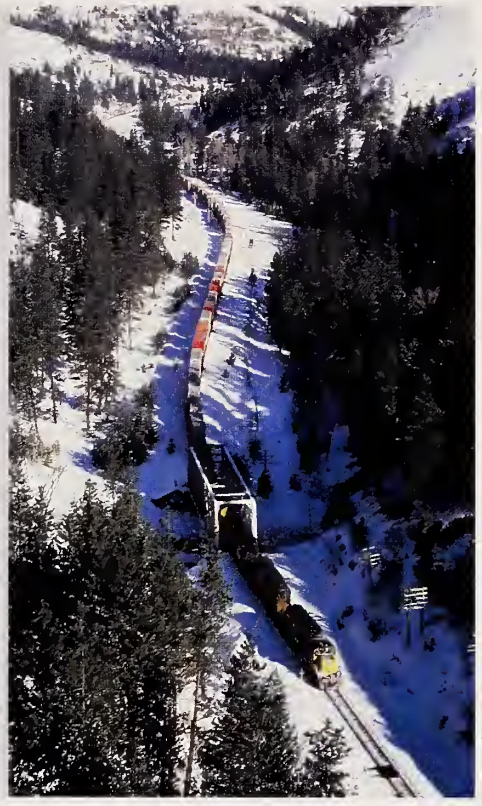
Source: Economic Report of the President, 1990.

Participants in the outreach process also urged the United States to continue to use international forums to advance U.S. interests in transportation—by, for example, negotiating improved access to foreign markets, removing barriers to efficient business practices, and establishing greater uniformity in transportation equipment, construction, and operating standards, especially standards for aircraft and auto safety and aviation security.

Private providers have forged ahead with creative new ideas for operating more efficiently and competing more effectively for the increasing volume of international goods movements. The development of double-stack container trains by U.S. ocean shipping lines and railroads is one outstanding example.

Double-Stack Trains

In the 1980's, American President Lines, one of the major U.S. marine shipping companies, and Southern Pacific Railroad pioneered the development and introduction of double-stack rail equipment for carrying shipping containers. This innovative new equipment has a lower base than conventional railroad cars and allows containers to be stacked two high without exceeding the standard clearances allowed in railroad tunnels and bridges. Coinciding with the growth in international container freight, the double-stack trains initially hauled millions of marine containers of international traffic from West Coast ports to inland points or to Eastern ports for movement to Europe. More than 100 dedicated double-stack trains now leave the West Coast each week for eastern points. Returning westbound trains are increasingly used to carry domestic and export freight. Attracted by the fast and reliable service and cost savings of 25 percent or more, many U.S. companies are now using double-stack service to haul purely domestic cargoes on other routes.



AMERICAN PRESIDENT COMPANIES

Competing on Equal Terms

Many business interests, carriers, and concerned citizens believe that the transportation system cannot function effectively unless the various modes of transportation are allowed to compete with each other on a more equitable basis. They cited a variety of subsidies, statutes, and regulations that can create unfair advantages or disadvantages to a particular mode or group of competitors.

Facilitating Interstate Commerce

Transportation providers participating in the hearings testified that they are covered by a "crazy quilt" of local restrictions, including truck licensing and weight limit restrictions and airport noise restrictions. For example, 37 of the 38 largest U.S. hub airports have use restrictions on aircraft operations to reduce noise impacts on surrounding communities. Noise curfews and other restrictions on aviation operations can reduce transportation efficiency and adversely affect interstate commerce. On the other hand, representatives of local communities described these restrictions as appropriate exercises of their public responsibilities.

"I think that the single most important issue...can be summed up in one word. The word is uniformity....Do everything you can to eliminate the special interest laws that increase costs, impede the timely flow of goods, and do little to improve safety."

Siro DeGasperis
Vice President, Public Affairs,
United Parcel Service

Overhauling Outdated Regulations and Policies

Many in the transportation industry share the sentiment that decades-old laws and government restrictions should be reexamined in light of current competitive conditions. For example, many railroad laws were put in place before the other modes were strong competitors, and the railroad industry is still covered by these unique, burdensome Federal requirements, hampering the railroads' ability to compete for business. Also, many maritime laws date back to the 1920's and 1930's. Economists, business operators, and industry groups suggested that present transportation subsidy and user charge systems may not match patterns of use, costs, and competitive circumstances in the 1990's and that they should be reexamined as well.

Enhance Public Safety and Strengthen Our National Security

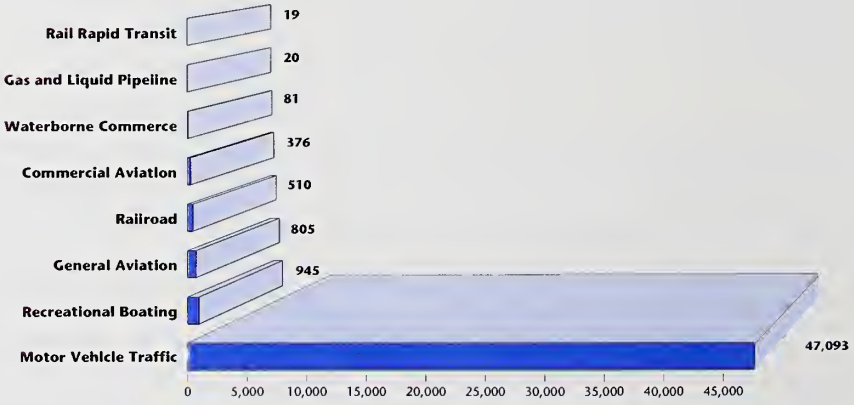
Improving Safety

In 1988, 49,850 people were killed in this country in accidents involving highway traffic, air, marine, railroad, and pipeline operations. Transportation accidents cost the United States an estimated $90 billion each year in lost income, property damage, medical and other expenses. During the Department's policy hearings, transportation professionals and private citizens alike noted the importance of tough safety laws, better enforcement programs, and driver education, as well as vehicles and safety devices that can better protect drivers and passengers.

"Highway safety still ranks as one of the highest concerns of our citizens. Over 80 percent favor stricter laws for DWI convictions, more law enforcement, stricter courts, more funding for highway safety and continued involvement of all three levels of government in highway safety."

Ross Kelly
Assistant County Engineer,
Spokane County, Washington

Transportation Deaths in 1988



Source: U.S. Department of Transportation, Notional Transportation Statistics

Americans want cars, aircraft, trains, buses, and other forms of transportation they use to be safe. They also want to be protected from hazardous materials transported on roads, railroads, pipelines, and other systems. People look to the Federal Government as a major force in promoting safe transportation. Increasingly, States and local communities also are developing programs to foster improved transportation safety. During the outreach process, citizens emphasized that government agencies at all levels should take an active role in protecting the safety of those who use transportation and communities adjoining transportation facilities.

Project Safe
Waterbury, Connecticut

The city of Waterbury, Connecticut, began "Project SAFE" in 1985 with a program to promote use of safety belts and child safety seats, supported by funding from the Connecticut DOT and the National Highway Traffic Safety Administration. The safety campaign soon expanded to include special campaigns to reduce drugged and drunk driving and to increase pedestrian and bicycle safety. Project SAFE has successfully brought together many different players, including the mayor, schools, hospitals, employers, police, tavern and bar owners, and 12 surrounding communities, to improve traffic safety in the Waterbury region. One indicator of its success is a major increase in safety belt usage from 7 percent in 1984 to 57 percent in 1987.

The safest place for a child to ride in a car is the rear seat in a safety restraint appropriate to the size of the child. Yet about 40 percent of child passengers ride either unprotected or improperly protected, leading to thousands of deaths each year. Infants from birth to 20 pounds should ride in a rear-facing infant seat, and toddlers from 20 to 40 pounds in a forward-facing convertible seat. Children too large for a convertible seat should ride in a booster seat until they can properly fit the vehicle's lap and shoulder belts.

Traffic safety specialists point to human error as the major cause of transportation accidents. They emphasize that improving the human-machine interface offers the greatest potential for improving transportation safety in the future. Some vehicle and system designs now available already have exceeded many operators' capacity to use them safely and effectively. The National Transportation Safety Board cautions that advanced transportation systems seem to invite new forms of human error, often leading to gross blunders rather than the relatively minor errors associated with traditional systems. This calls for increasing attention by transportation operators, manufacturers, and others involved in transportation research, design, and engineering.

"Human error...is the most pervasive fundamental problem and limitation to achieving safety and efficiency in the operation of our transportation systems."

Dr. John Lauber
Member,
National Transportation Safety Board

Supporting National Security

Efficient, competitive transportation is also critical to the Nation's military preparedness and to the Defense Department's ability to deploy and sustain U.S. defense forces. A particular concern for defense is the decline of the U.S.-flag merchant marine. U.S. shipping lines have proposed a variety of private sector initiatives coupled with reforms of government programs that can improve the situation.

"The capability of our military forces is directly dependent on our ability to move them rapidly and efficiently....there is no U.S. defense transportation system without a robust civilian transportation system."

General Duane Cassidy
United States Transportation Command,
Department of Defense

The flow of illegal drugs into this country is another major national security issue. Recognizing that drug-related crimes have become a focus of concern across the United States, citizens and transportation officials support efforts to track and intercept drug shipments moving into the country and through the transportation system and to prevent use of drugs and alcohol by vehicle operators and other transportation workers.

Americans want to be sure of their security when they travel in the United States and abroad. In the outreach process, many comments were directed to airport screening procedures, installation of new screening technology, improved information for U.S. travelers, and better coordination of international transportation security practices. Citizens expect airlines, airports, and government agencies to use these tools to improve the security of travel.

The Coast Guard defends U.S. waters, and has served with the Navy in military conflicts around the world.

Contribute More to the Quality of Life for All Americans

Protecting the Environment

The environment and the quality of life are important to Americans. In the policy outreach process, environmental issues brought out strongly held, sometimes opposing views. Many people would like to see more use of environmentally sound transportation vehicles and modes of transportation. Transit and rail service were frequently cited as offering environmental benefits over auto and truck travel. A substantial number of participants in the outreach hearings urged that environmental goals be given greater weight in transportation decisions in both the public and private sectors, although there are widely differing views on the appropriate balance between environmental and economic goals.

More people are now aware of catastrophic oil spills in our oceans, ports, and inland waterways and of the effects of these spills on wildlife, the natural environment, and the quality of life. In the wake of the *Exxon Valdez* spill off the coast of Alaska, many observers called for more action by private companies and the Federal Government to prevent oil spills and provide effective cleanup of spills that do occur.

While the effects of transportation activities on air and water quality are the most frequently mentioned environmental issues in transportation, citizens are also concerned about noise from nearby airports and highways. Many neighborhood representatives testifying in the Department's outreach hearings noted that transportation noise disrupts their activities, although airline officials observed that aircraft noise has been considerably reduced around airports over the past five years.

"The automobile is as American as apple pie, but just like eating too much apple pie will make you sick, too many cars on our roads and streets degrade our quality of life..."

George Ivey, Jr.
Chairman of the Board,
Metropolitan Atlanta Rapid
Transit Authority,
Atlanta, Georgia

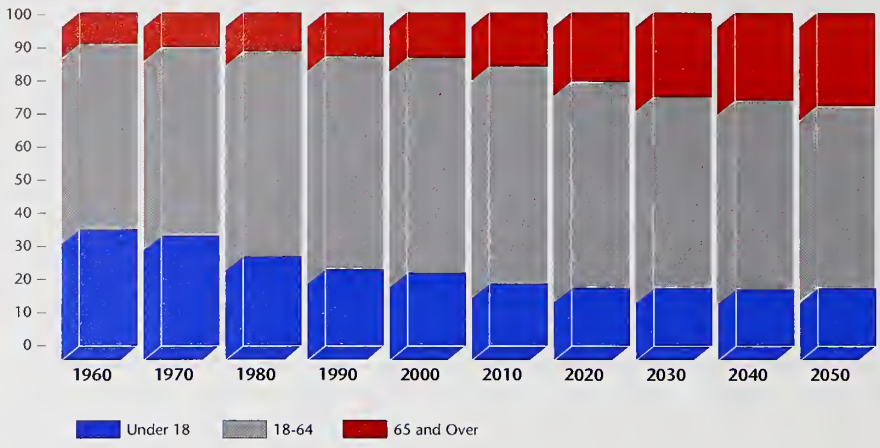
Extending Mobility to All

The mobility that characterizes our Nation is not fully available to many Americans. Witnesses at the outreach hearings spoke often of the need for government and transportation providers to make greater efforts to extend the benefits of transportation to those who have not been well served. The elderly population, the most rapidly growing segment of Americans, would benefit from automobiles that are easier to operate, more readily accessible public transportation facilities and vehicles, longer walk cycles for pedestrians at intersections, and better-lit and easier-to-read highway signs.

"There really ought to be an affordable, convenient, mass public bus and train transportation system....For the poor, the disabled, the elderly, the economically disadvantaged...and for people who do not know how to drive, it is a devastating problem."

Roberta Gallant
Laconia, New Hampshire

Percent of U.S. Population by Age Group



Many citizens would like vehicles of all kinds—buses, automobiles, aircraft, and railcars—to be made more accessible for the millions of Americans who have some physical or mental disability. Disabled citizens cite a lack of appropriate transportation as the chief barrier to getting jobs and being fully productive members of their communities. There is wide support for Federal legislation guaranteeing the rights of the disabled. At the local level, where direct responsibilities for transit accessibility lie, there are positive examples of successful efforts to serve disabled and elderly travelers, such as those of the Seattle Metro Transit System.

Metro Transit System
Seattle, Washington

Ten years ago, Seattle's public transportation system made a commitment to provide a mix of public transportation services for disabled citizens. It installed lift equipment in buses operating on regular fixed routes, coordinated non-profit van services in sparsely populated areas, and provided subsidies to the disabled for taxi service where transit cannot accommodate them. One source of Seattle Metro's success in serving disabled travelers is the team of representatives from labor unions, Metro management, the disabled population and specialists in meeting their needs, who give ongoing advice on ways to improve the system.

Foster Transportation Technology, Innovation, and Expertise

Developing New Transportation Technologies

Americans are excited about the possibilities of new transportation technology—new high-speed passenger rail service, hypersonic planes, tiltrotor aircraft, magnetically levitated trains (maglev), global positioning systems for air and marine navigation, and intelligent vehicle/highway systems. Development of these and other technical advances depends upon continued research and the equipment and facilities to support it. Most research into new transportation technology will continue to take place in the private sector. In fact, even in space transportation, private companies are launching research satellites and providing other services once provided solely by the Federal Government. Twenty years after man's landing on the moon, people are now aware of the great potential for space transportation to contribute to a growing range of commercial and industrial activities, including communications satellites and scientific research.

"We must act quickly to deploy safe, reliable, and cost-effective transportation technologies such as monorail and maglev to unlock traffic gridlock in urban/suburban corridors."

Michael D. Antonovich
Los Angeles County Board of Supervisors

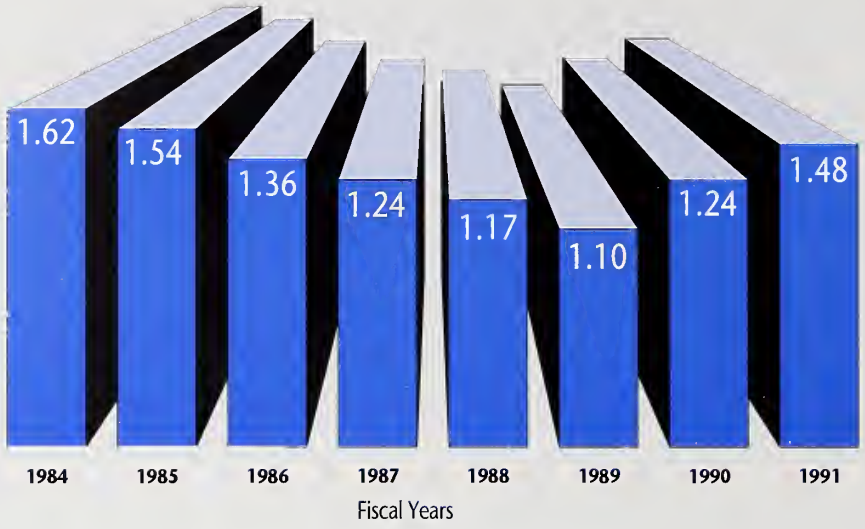
Spaceports in Florida and Hawaii

Both Florida and Hawaii are developing commercial space centers. A center for R&D and commercial applications, including a satellite launching facility, is taking shape in Florida. This joint effort of the State of Florida, Brevard County, universities, business, and the Federal Government will be a fully equipped facility for commercial and civil launch services and payload processing. The State of Hawaii is also planning a commercial space launch facility. Its island location near the Equator makes Hawaii well situated for equatorial as well as polar orbital launches.

The Federal Government can stimulate research initiatives in transportation by creating an overall climate for new ideas and new approaches in transportation. While recognizing the limits on Federal funds and other resources, most observers still see the Federal Government as an important catalyst for research and development; they support devoting more Federal transportation dollars to research. In response to these concerns, the President's FY 1991 budget includes a 17 percent increase in Department of Transportation spending on research compared to FY 1990.

DOT Research Obligations

(Percentage of Total DOT Budget)



Applying Research Tools and Results

People know technology is changing the way they live. Expert witnesses and private citizens alike noted that there must be a conscious balance between technology and human ability to use it safely and productively. For example, in new high-technology equipment the variety of automation and information available for vehicle drivers, pilots, or air traffic controllers could rapidly outstrip the ability of most people to learn and use all the features. This suggests a need for increased attention to the interface between humans and machines in the design of equipment, operating procedures, and operator training.

Assuring a Skilled Work Force

A highly skilled transportation work force is essential to the future health and productivity of the U.S. transportation industry. Transportation providers participating in the Department's outreach process described their needs and plans to improve recruitment, training, working conditions, and compensation to assure a skilled, safe, productive work force. In line with the President's education initiative, transportation managers, representatives of labor, and public officials all recognize the importance of greater attention to education and training to ensure that the transportation sector will have the human expertise to match emerging technologies. Private firms, labor, local officials, and educators are working together to develop programs to prepare the operators, managers, engineers, and technicians needed in the transportation industry for the next century.

"Technology is an essential tool in addressing transportation problems. Dedicating resources to research and development is the only way we can hope to anticipate the future and gain a competitive foothold in the next generation of transportation technologies."

Kay Orr
Governor of Nebraska

"Our nation's policy should be to strengthen the relationship between government, education, and industry. We must have an education system that can deliver job-ready and job-literate young people."

Neil Mann
Assistant Vice President
of Personnel, Amtrak

Summing Up

In response to the Department's efforts to reach out to the Nation to gather views and information, many people took the time to write, call, or speak about parts of the transportation system that affect them. Through their participation, they brought added meaning to the data and analysis available in the Department for use in the development of policy. Their comments were offered as suggestions for improvement. Their proposals were creative and forward-thinking and they reflected needs and values important for all America. The Department of Transportation is committed to developing and carrying out transportation policies that do justice to the good faith and optimism of these many Americans.

"A national transportation policy should encourage us, challenge us, inspire us, and indeed require us if necessary to roll up our sleeves and make hard choices and sacrifices that are necessary for us to continue in our role of leadership today."

J. David Chestnut
Chamber of Commerce,
DeKalb County, Georgia

FPG INTERNATIONAL

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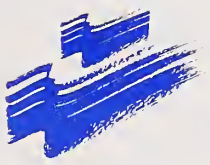
EXPRESS

Chapter III
Policy Directions



Economic growth and increasing travel create transportation needs that eclipse our present public and private sector programs. As a nation, we must find new energy and new means for addressing those needs. Transportation will be competing with many other interests for the Nation's attention and investment, and those interests must all be weighed in our national policies. But we can achieve a more sound, safe, efficient, and modern transportation system if we invest our resources more wisely to reach that goal. We have vast assets in this country—land and raw materials, facilities and other investments, as well as human and financial capital. The measure of our society is our ability to use those resources wisely and productively to meet our goals. Not all the solutions can come from the Federal Government. State and local governments, private businesses, academic institutions and interest groups, communities and individuals must all be partners in addressing the challenges. We need to broaden and revitalize that transportation partnership, generate new ways of looking at problems, and tap new sources of capital. The measure of our Federal policies will lie in their success at unleashing private resources and using public resources most efficiently to meet society's needs, in a way that is sensitive to the interests of fairness, safety and security, conservation of energy and the environment. It is a challenge worthy of our Nation's best efforts.

The Public-Private Partnership in Transportation

Transportation is a shared responsibility between the private and public sectors—the Federal Government, State and local governments, regional agencies and authorities, quasi-public entities, and private interests. Together we have made an enormous investment in transportation, with a total value now estimated at more than $5 trillion for all civilian vehicles, transportation facilities, and basic infrastructure, including both public and private sector investments. The public share of the Nation's capital investment in transportation—roughly $800 billion in fixed capital assets and vehicles—is only one-sixth of the total represented by all the facilities and vehicles owned by the country's citizens and businesses.

The Federal Government has a major role in ensuring transportation safety, monitoring the condition and performance of the Nation's transportation system, and collecting and administering transportation revenues. Some transportation programs are operated by the Federal Government, such as the air traffic control system and the Coast Guard service within the Department of Transportation, and harbors and inland waterways under the U.S. Army Corps of Engineers. But all those Federal activities are part of a larger partnership in transportation, with State and local governments, private business firms, and individuals.

State and local governments provide the major share of public sector transportation financing. They also build and maintain facilities such as streets, roads, and airports, in addition to operating and managing ports and local rail, bus, and other transit services.

The private sector has responsibility for providing most transportation services in the Nation—operating the trucks and trains, airlines, intercity buses, pipelines, marine vessels, and other commercial vehicles carrying people and goods. Cargo terminals and piers generally are owned and operated by private firms. Private companies also own and maintain most of the U.S. freight railroad system, including the tracks and other infrastructure, as well as the extensive network of gas, oil, and chemical pipelines. There are additional areas in which private capital investment in transportation would be both profitable and in the public interest, such as in high-density urban or intercity services.

As we face the new decade and the new century, we must revitalize the transportation partnership.

Although the mixed system of ownership and financial and operating responsibility in U.S. transportation is complicated, a mix of public and private sector participants suits the wide range of transportation facilities and services and contributes to the Nation's ability to use resources efficiently and to respond quickly and effectively to ever-changing demands.

The Framework for the Federal Government Role

The Federal Government role in transportation is anchored in the U.S. Constitution and compelling national interests. First, the Federal Government has the Constitutional responsibility to facilitate and promote commerce, conduct the Nation's foreign affairs, provide for national defense, and promote the general welfare; Federal transportation policies and programs support those national purposes. Second, many concerns such as safety and the environment have national importance because they are national in scope and range, recurring, and more efficiently handled at a larger scale than State or local efforts would permit. The Federal Government also is uniquely positioned to work with the governments of other nations to establish and maintain a framework for international transportation in which U.S. companies can compete freely and fully and which will support productivity and efficiency in the emerging global marketplace.

Federal transportation policy is grounded on a set of fundamental principles for achieving national goals within the basic framework for Federal involve-

Policy Principles

The Federal Government should focus its attention on compelling national interests that government participation can advance. Federal programs and policies should be:

Designed to contribute to attaining national goals

Based on cost-effective use of resources in relation to public benefits

Responsive to market needs and based on market principles

Directed at accounting for effects such as safety or environment that are not adequately reflected in prices in the marketplace

Equitable in dealing with the various modes and forms of transportation

Flexible enough to address varying circumstances and needs.

ment, relying on the free market to the maximum extent possible. Where the market fails to take into account all public costs of a particular transportation activity or service, such as safety or environmental impacts, then Federal policy can be used to correct those imbalances, to improve the general public welfare.

The environment in which the transportation system functions is not fixed. Conditions vary both across the Nation and over time. In fact, the circumstances surrounding each passenger and freight movement are slightly different. Therefore, Federal policies must be flexible enough to accommodate changing circumstances and demands. The Federal Government must also give private sector, State, and local interests sufficient flexibility to adjust to the specific transportation needs and conditions they face.

Through a strategic approach based on the above principles, the Federal Government can provide the national leadership to meet our mutual transportation objectives. With the energy and ingenuity, wisdom and sensitivity of all of us working in common, the Nation's vast resources—public and private—will be available to ensure that our transportation system continues to serve the Nation's goals.

Focus of National Transportation Policy

Federal transportation policy for the future builds on six key themes:

- Maintain and expand the Nation's transportation system
- Foster a sound financial base for transportation
- Keep the transportation industry strong and competitive
- Ensure that the transportation system supports public safety and national security
- Protect the environment and the quality of life
- Advance U.S. transportation technology and expertise.

Maintain and Expand the Nation's Transportation System

The foundation for the Nation's transportation system is the infrastructure—our bridges, highways, airports, rail lines, ports and waterways, pipelines, and other fixed facilities. The transportation infrastructure in the United States is now at risk. Therefore, the Nation must maintain these transportation assets and devote the resources necessary for reinvestment and expansion, to support the efficiency, capacity, and performance of the transportation system and the growth and strength of the national economy. Investment in transportation is also crucial to the health of local, State, and regional economies. The Federal Government, State and local governments, and the transportation industry must each play a role in managing transportation resources.

Inadequate maintenance and inefficient use of the transportation infrastructure reduce the capacity of the system and contribute to congestion. Expanding capacity will certainly be necessary in some areas; in many other areas, we must make better use of existing transportation facilities. For example, with low-occupancy automobiles playing such a large part in traffic congestion in urban and intercity travel, we must take greater advantage of the potential of bus, rail and ridesharing if we are to reduce crowding, delays, and "gridlock."

Federal programs must provide the tools, incentives, and flexibility for State and local governments and the private sector to renew the capacity and performance of the transportation system. The Department of Transportation will work with the Congress and the entire transportation community to identify future transportation needs and enhance the capacity of the national system to address them. This cannot be the task of the Federal Government alone. The Nation must make use of the combined knowledge and insight, interests and resources of all sectors of the economy and all levels of government—Federal, State, and local agencies, large and small businesses, industry associations and interest groups, professional and academic organizations, and private citizens.

Americans lose nearly 2 billion hours annually in traffic delays on the streets and highways in our major cities alone. Freight movements held up in congestion on the highways cost consumers billions of dollars each year.

Restructure Intergovernmental Roles in Federal Transportation Programs

The U.S. transportation system is highly dependent on the participation and contributions of all levels of government. One of the essential principles for sound government is that responsibilities should be focused at the level that has the knowledge and understanding of the problems and issues, and the capability to address them most effectively and efficiently. When government involvement in transportation is necessary, the appropriate level for decisionmaking and management responsibility frequently is State and local. In fact, heavy Federal participation and the incentives and disincentives provided by Federal programs often discourage the other parties from playing the most effective and constructive role they can in transportation.

Reconstruction of Interstate 94 in the northern suburbs of Chicago, Illinois.

With the completion of the Interstate Highway System and the need for reauthorization of the Federal highway, urban mass transportation, and aviation programs, the Nation faces a unique opportunity to address the challenges of a changing society and economy, new technologies, and new roles for the members of the transportation community.

To have the transportation system we need for the future, we must recognize new and different roles for Federal, State, and local governments and incorporate that realignment within government transportation programs. The Federal Government must concentrate more of its transportation resources on facilities and projects that advance the performance of transportation systems of national significance. If the Federal Government is funding, operating, and regulating areas where unnecessary or inappropriate, those functions should be reassigned or eliminated. State and local governments have already assumed greater responsibility in transportation. This can and should continue. Some restructuring of Federal-aid programs will be required to provide to grant recipients the flexibility they need to achieve transportation goals. Narrow categorical grant programs can be replaced with broader, multi-purpose programs, and rigid project requirements can be replaced with performance criteria.

The Federal Government also must encourage State, local, and regional planning activities, and assist State, local, and regional organizations to build their transportation planning capabilities, through technical assistance,

data, and other support. Many local communities have planning boards that consider transportation proposals as well as housing and commercial development and other land use issues. State transportation departments generally perform planning functions, often developing individual plans for each transportation mode, while Metropolitan Planning Organizations (MPO's) are organized to coordinate local planning decisions among the many agencies and communities in a wider region. Regional planning is essential to ensure integrated transportation systems, as well as to organize effective programs for attaining metropolitan area air quality goals and other regionwide objectives in transportation.

It is Federal transportation policy to:

- **Focus Federal transportation resources on facilities of national significance**
- **Move from predominantly categorical grants to broader, more flexible Federal funding for transportation**
- **Replace rigid standards and requirements with performance-related criteria in Federal transportation programs**
- **Increase the share of project costs paid by the recipients of Federal aid for transportation**
- **Increase emphasis on integrated State, local, and regional transportation planning, including efforts to coordinate land use and transportation planning and investment decisions**
- **Strengthen the role of MPO's or equivalent planning bodies in programming and prioritizing transportation projects**
- **Move toward greater flexibility in use of transportation funds at all levels of government, to permit investment in facilities and services in alternative modes that offer the most cost-effective solution**
- **Encourage State and local matching funds for Federal aid transportation projects to be made available across modes with at least the same flexibility as Federal funds.**

Preserve Our Transportation Infrastructure

The first task for transportation is to maintain the assets that we have. If roads and bridges, subways, ports and waterways, and other transportation facilities are not kept in sound condition, they cannot support the level of service they are designed and required to handle. That means that the performance of the system declines: safe operating speeds drop, travel times rise, accidents increase and add further delays. That has a direct impact on the Nation's economy and ability to grow and compete in the world.

The longer that maintenance is deferred, the higher the eventual cost of restoration will be. Critical facilities in the national system must be put in good repair where they have suffered dangerous deterioration. In some instances, Federal-aid programs have detracted from effective maintenance by tending to encourage new construction at the expense of maintenance. Over the long term, essential transportation facilities must be maintained on a continuing, timely basis.

The Federal Government will set the example by providing incentives and resources for infrastructure repair, reconstruction, and rehabilitation. Already, close to half of total annual Federal expenditures for highways, for example, goes to those purposes. Where State or local governments or other entities receive Federal assistance for transportation infrastructure, Federal-aid programs will emphasize capital maintenance, in order to preserve our valuable transportation investment to meet future needs. The effort to preserve and maintain transportation facilities will hinge on the partnership between the Federal Government and the other parties with responsibilities for transportation infrastructure. The private sector and State and local governments have a direct interest in preserving and getting maximum utilization from their transportation facilities and other investments. With the appropriate tools and flexibility to make investment choices, they have a clear incentive to maintain the infrastructure for which they are responsible, as long as Federal policies and programs do not interfere.

Amtrak uses its unique mechanized Track Laying System to rebuild and maintain its lines in the Northeast.

PETER MONTAGUE

It is Federal transportation policy to:

- **Give priority to maintaining needed transportation infrastructure**
- **Encourage infrastructure maintenance by those receiving Federal transportation aid, for example, by covering a lower share for new construction than for projects involving repair and rehabilitation**
- **Encourage recipients of Federal aid for transportation to preserve critical elements of the infrastructure, for example, through stronger requirements for pavement and bridge management plans within the Federal-aid highway program and better designs for long-range durability**
- **Work with State and local governments and other officials to apply standards and designs to resist wear and damage to transportation facilities, and address special needs created by weather, corrosion, and extraordinary events, such as catastrophic accidents and natural disasters.**

Make the Best Use of Transportation Assets

To use the Nation's resources most effectively, we must take better advantage of our transportation infrastructure and services. Many transportation facilities in the Nation could handle substantially increased traffic, including medium and small hub airports, railroad lines, and many waterways. Where there are additional demands to accommodate, highway rights-of-way should be considered for multiple uses. Closed military bases should also be evaluated for potential use to serve civilian transportation needs. Outside of a few peak hours of the day, even many of the major airports, urban transit systems, and highways have unused capacity. A number of techniques already available can enhance the ability of those facilities to meet transportation demand. We can make significant progress in utilization of our transportation system by increasing use of higher occupancy vehicles and modes. Walking and bicycling in urban and suburban areas can also help to ease congestion on the streets and roads, especially if streets are designed with pedestrians and bicyclists in mind.

High-occupancy vehicle lanes for buses and carpools on major commuting routes can carry three or more times as many people as a conventional highway lane. Even though more people are moving, there are fewer vehicles, so traffic flows faster, encouraging more commuters to use bus service or share rides.

We must improve management of transportation systems and facilities in order to accommodate more traffic and to handle traffic more efficiently, particularly in the highway, aviation, and waterway systems where there is congestion today. In aviation, the new generation of air traffic control and more effective airspace management will considerably enhance capacity. The modernization program now underway to replace obsolete equipment for air traffic control and to upgrade system automation will permit more aircraft to take off and land safely at existing runways than ever before possible. On toll bridges and highways, approaches such as prepaid passes, toll-free travel for carpools and other high-occupancy vehicles, or automated

tolling and billing using electronic systems for vehicle identification can save the cost and delay associated with conventional toll booths and boost effective capacity. New technologies now in the development and testing stage, such as "intelligent vehicle/highway systems," can also improve traffic flow on streets and highways, enhance capacity, and increase trip reliability and safety.

Shirley Highway

High-Occupancy Vehicle Lanes
Northern Virginia

The Shirley Highway high-occupancy vehicle (HOV) lanes serve commuters in the northern Virginia suburbs who travel in buses, vans, and cars with three or more occupants. At peak times in the morning and afternoon, each HOV lane normally carries 7,000 people per hour, as compared to 2,000 people per hour in each lane on the adjacent freeway. The much shorter travel times and smoother traffic flow in the HOV lanes attract additional commuters to carpools, vanpools, and buses. As a result, the Shirley Highway HOV lanes carry more people into and out of the Washington region's urban core during rush hours than any of the other highways or individual rail lines that serve Washington.

We also need to give greater attention to the potential for capacity-enhancing pricing techniques in transportation, such as peak-period or congestion pricing, and to refine them and extend their use. Peak-period pricing entails relatively higher prices for travel during periods of peak demand and lower prices in off-peak periods. While peak-period or congestion pricing is not a substitute for necessary capacity increases, it is one important way to encourage the most effective use of existing facilities, by shifting demand that would otherwise require additional capacity to other periods or modes where facilities are underutilized. Peak-period pricing is common in the private sector—in restaurants, theaters, resorts, as well as long-distance telephone service, and rail and air fares. The same pricing principles offer significant potential for transportation facilities and services provided by the public sector to achieve efficient use of resources and ensure that public funds are well spent. Such pricing practices can generate significant revenues to support capacity enhancements and expansion.

Federal assistance programs must also be structured so that the availability of Federal assistance does not encourage unnecessary or unwise investment. For example, the structure of the Federal urban mass transit program has encouraged the construction of new rapid rail systems and discouraged investment in more cost-effective alternatives. Disparate Federal matching shares in the highway and transit programs have also played an important part in distorting State and local transportation decisions. Federal programs must allow for evaluating a broad range of options, and permit investment in projects that enhance capacity and make improved use of existing resources where that choice would be more cost-effective in the long run than construction of new facilities. The recipients of Federal transportation aid for highways and transit, for example, should make more use of transportation system management techniques, including consideration of alternative investment and service options, in developing capital programs. Busways and high-occupancy vehicle lanes, as well as traffic control and management improvements on the streets and highways, in ports and waterways, and at airports, should be taken into account when construction of new facilities is being considered.

The focus of transportation programs should be moving people and goods, not simply vehicles.

The focus of transportation programs should be moving people and goods, not simply accommodating vehicles or modes. In some cases, investments in alternative modes may be the best means for alleviating congestion and achieving other objectives in a transportation system, and resources should go to those alternatives if they represent a more cost-effective way to meet transportation needs. For example, urban or intercity mass transportation options should be integrated in highway and other transportation planning. Evaluation of alternatives on the basis of full "lifecycle" costs can assist in selecting the best investment and spending options.

It is Federal transportation policy to:

- **Encourage effective management and use of transportation assets by requiring Federal aid recipients in Department programs to evaluate alternative options and management techniques that enhance performance and capacity (e.g., high-occupancy vehicle lanes and traffic control improvements)**
- **Explore incentives in Federal-aid programs for cost-effective use of transportation assets, such as higher matching ratios in the highway program for projects that make better use of existing facilities**
- **Manage Federal transportation facilities and equipment, such as the air traffic control system, to maximize efficiency and use of system capacity and ensure that existing facilities are used to the best advantage to meet transportation needs**
- **Install systems identified as offering major capacity enhancements for existing facilities, including the National Airspace System Plan**
- **Promote the use of improved vehicle control and scheduling techniques for complex and multiple-use transportation facilities, such as waterways, harbors, rail lines, and national space launch ranges**
- **Encourage peak-period or congestion pricing to ensure the most effective use of transportation facilities.**

Particularly for congested facilities like major airports, we must improve our management of available capacity to accommodate more traffic and handle traffic more efficiently.

©PHOTO

Improve Intermodal and Rural Connections

The transportation system cannot work effectively if critical segments in the national system are not connected. No matter how good the individual parts of the transportation system may be, the effectiveness of the overall system depends on the effectiveness of the connections a traveler or a carrier can make in getting from origin to destination. One of the justifications for the Interstate Highway system initially was to create a seamless, interconnected network of safe, high-speed roadways that could transport goods and people to all parts of the Nation without delays and inefficiencies caused by lack of integration between road segments across the country. Connections now must reach beyond a single mode, to foster integrated intermodal transportation service.

An increasing share of travel today employs not only multiple segments of an individual transportation system, but also multiple modes of transportation. Many people park and take transit service, or transfer from bus to rail, on the way to work. Commuters using public transportation also may walk or bicycle to the transit stops. Intercity passenger travel frequently involves use of air or rail service in combination with a shorter trip by automobile, taxi, local bus, or rail. For freight, many shipments are picked up and delivered by truck, but piggybacked onto a railroad for the long-distance journey. In an extension of that intermodalism, millions of shipping containers each year are moved on linerships across the ocean and transferred to rail, truck, or truck and rail in sequence to get between a port and other points in the United States. In many instances, however, passengers or freight cannot use the most efficient combination of modes or segments of the transportation system, because the modes or segments are not effectively linked. That means delays, increased congestion, and sometimes even inability of people and goods to get where they need to be. In fact for some trips more time is taken up by delays and difficulties making connections than by actual travel.

Good connections are essential to travelers. Airports should accommodate local public transit and intercity bus and rail connections. For commuters in congested urban areas, park-and-ride facilities provide connections for public transit and carpools.

When trips involve transfers from one form of transportation to another, good connections between modes are essential from local streets and arterials to the interstate highways, from air travel to shorter distance ground transportation, from truck to rail, from rail to ship. In some cases, lack of coordination between modes means that there are not adequate intermodal transfer facilities, or good connections at present terminals, for example, rail and bus stations for passengers, or rail-truck or rail-ship intermodal transfer facilities for freight. Other gaps in the present system could be closed by the addition of short links between existing facilities, including rail lines to piers or transit operations to airports.

Effective transportation connections have special importance to some communities. Islands, such as the U.S. territories in the Pacific and the Caribbean, and many offshore islands in the continental United States, can only be linked to other regions and markets by air or water service. In isolated rural areas in particular, native Americans require access to transportation to be able to pursue employment opportunities, economic development, and personal

mobility. Roads and highways are the chief link between communities and households in most rural areas, which depend primarily on private automobiles and trucks to transport people and goods. Increasing numbers of rural communities are establishing local transit service, often using minibuses or vans. Private bus lines provide important connections for intercity travelers in rural areas, including small bus companies carrying passengers to and from transcontinental bus routes, in a form of hub-and-spoke system.

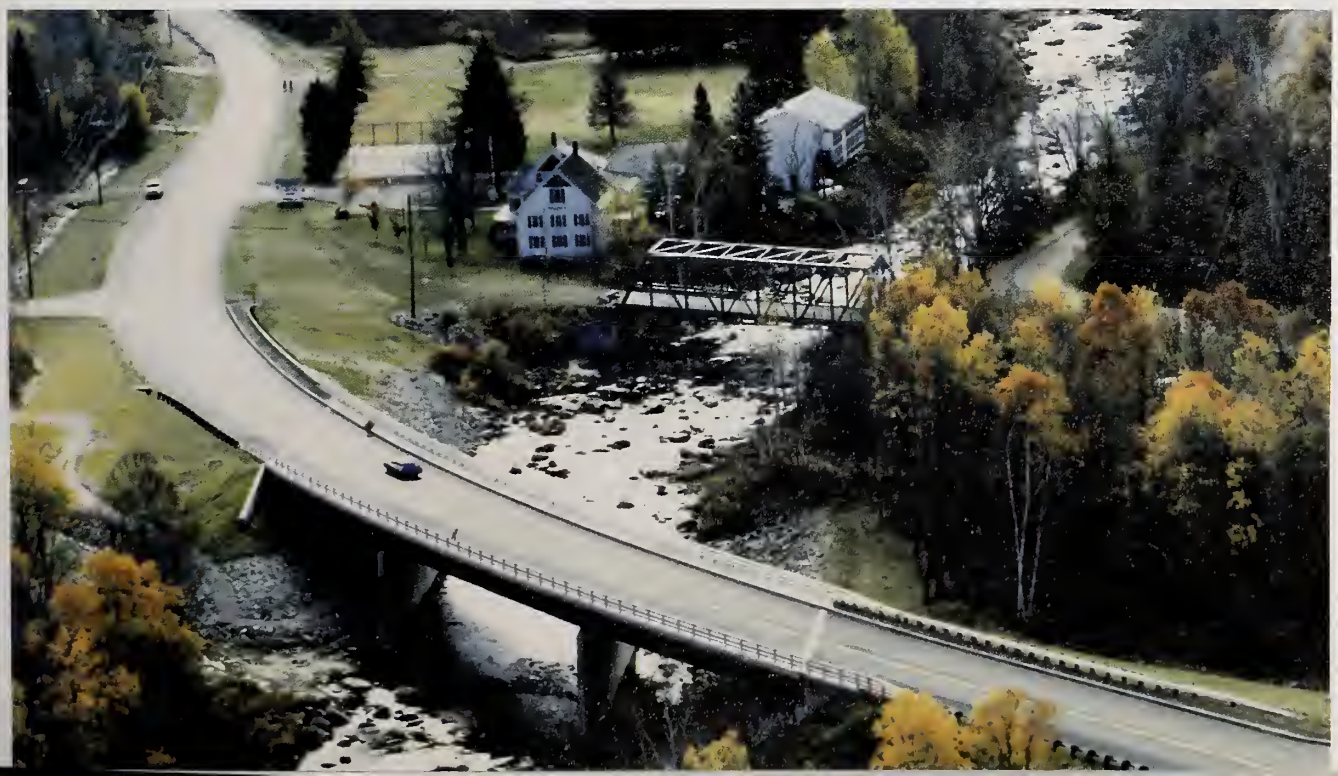
Rural areas depend on effective transportation to link households and businesses.

Although many rural rail lines have been abandoned for lack of traffic, rail freight operations—particularly those offered by emerging local or regional railroads—can offer an economical alternative for handling the freight of many rural shippers. The Federal Government encourages formation of local and regional railroads to preserve service where it is cost-effective. It is important that the current legal uncertainty surrounding these transactions be resolved so that they can continue to foster service to rural and underserved areas.

It is Federal transportation policy to:

- **Foster an environment in which State and local governments and the private sector give greater priority to transportation facilities and improvements that close critical gaps in the national network**
- **Move toward greater flexibility in use of transportation funds at all levels of government for facilities that enhance access and improve connections**
- **Work with public and private transportation interests to identify needs for improved connections and to plan, design, and put in place improved facilities and enhanced transfer techniques between transportation modes and carriers**
- **Encourage State, local, and private efforts to preserve and enhance efficient transportation service in rural areas lacking effective connections.**

U.S. 302 and State Route 10 in the Town of Bethlehem, New Hampshire.



Build Essential New Capacity

To meet long-term transportation needs, the Nation must anticipate and plan for expansion in our current transportation system. Population, development, and industrial location patterns, along with technological advances, all are contributing to growth and change in transportation demand. Existing facilities and improved management techniques cannot fully satisfy all future transportation requirements, particularly in high-growth urban fringe areas and dense intercity corridors. Communities, State and local governments, private businesses, and individuals will have to participate in planning future transportation capacity additions, taking into account impacts on local land use, energy, environmental resources, and personal lifestyles and preferences. Some States and communities have already identified their top priority needs for new transportation capacity and are working to plan and finance projects to meet those needs. In coordination with State, local, and private sector transportation interests, the Federal Government will continue to work to address the need for capacity additions in transportation systems of national significance.

To meet long-term transportation needs, the Nation must anticipate and plan for expansion in our current transportation system.

The Federal Highway Administration and Urban Mass Transportation Administration work with the States and local governments to identify transportation demand and potential improvements to meet that demand. The Federal Aviation Administration is studying projected aviation demand in relation to airport and airspace capacity, and evaluating the most effective ways to serve the needs of aviation users, including commercial airlines, general aviation, and military operations. Meeting those needs will also include increasing the number of air traffic controllers to permit safe, efficient use of aviation system capacity.

Federal transportation programs will reflect coordinated assessments of transportation requirements, in the context of integrated regional transportation systems, taking into account the various modal options (e.g., highway and transit in urban areas). No major new federally assisted transportation facilities should be built without full consideration of existing facilities, alternative options, and capacity enhancements possible through improved management and control techniques.

One focus of attention for meeting future transportation needs is preservation of the land or corridors required for anticipated new capacity additions. If the land is not acquired and set aside in advance for facilities such as airports and highways, the property often will not be available to accommodate necessary projects in the future, without serious dislocation. While preserving corridors is often costly in the short term, in the longer term it can save the community and the general public the much higher expense of buying out and relocating high density development. The Federal Government can provide incentives for corridor preservation, for example, through an expanded revolving fund within the Federal highway program that charges interest for non-Interstate highway projects. Adding new transportation capacity requires substantial investment, and the Nation will need greater

commitment from State and local governments and the private sector to fund needed expansion. In partnership with State, local, and private interests, the Department will support construction of new facilities and new capacity on existing facilities to address top priority needs in transportation systems of national significance.

It is Federal transportation policy to:

- **Ensure that essential new capacity is provided in transportation systems of national significance to meet critical national needs**
- **Encourage preservation of land or corridors that will be required for future transportation facilities or capacity additions**
- **Conduct continuing comprehensive multimodal evaluations of the performance of the Nation's transportation system and the factors affecting investment needs.**

Hartsfield International Airport, Atlanta, Georgia.

UNIPHOTO

Foster a Sound Financial Base for Transportation

Financial resources provide a vital tool for meeting transportation needs, including private sector investment and funding from all levels of the public sector. To address those needs, the Nation will have to rely on the initiative and resources of private firms, State and local agencies, and where necessary, the Federal Government. Not only conventional financing sources but also many innovative financing approaches will have to be involved. The Federal Government will work alongside and in close cooperation with private firms, industry groups, and State, local, and regional agencies to facilitate the investment that will be required to support the dynamic and efficient transportation system we need for the 21st century.

Uphold the Federal Share of the Partnership

The Federal Government sets a standard for financial responsibility through its policies and transportation investments. The Department of Transportation spent $26.7 billion in outlays in FY 1989, increasing to $28.3 billion in FY 1990. At the Federal level, responsibilities for transportation infrastructure primarily cover highways and public transit, aviation, and waterways.

Dedicated trust funds have provided the foundation for sound and vital Federal transportation programs for highways since 1956, for aviation since 1971, and for transit since 1982. Approximately 20 percent of public expenditures on the Nation's highways are covered by Federal funds, largely derived from taxes on motor vehicle fuels and on heavy vehicles. Those revenues go into the Highway Trust Fund and are disbursed to the States, with a specified matching level of funds contributed by the States themselves. One cent per gallon of highway fuel taxes is set aside in a separate trust fund account for public transit.

User charges pay for most airport and highway facilities.

Interstate 70 and Stapleton International Airport, Denver, Colorado.

PHOTO RESEARCHERS

Aviation users contribute to the Airport and Airways Trust Fund, which covers about one-fifth of total capital investment in airport improvements each year—100 percent of Federal spending on aviation facilities, equipment, and research, and a small percentage of Federal costs for operating the air traffic control system. Maintenance and improvements on most of the inland waterways and deepwater harbors, including locks and dams and channel dredging, are the responsibility of the U.S. Army Corps of Engineers. Marine users pay into two trust funds: the Inland Waterways Trust Fund, paid from Federal fuel taxes on commercial vessels, which covers about 10 percent of Federal outlays for inland waterways, and the Harbor Trust Fund, collected from a tax on cargoes through U.S. ports, which covers about 30 percent of Corps harbor construction and maintenance costs, as well as all of the operating costs of the U.S. portion of the St. Lawrence Seaway. Under legislation passed in 1986, the Inland Waterways Trust Fund can be used for 50 percent of the costs of waterway improvements, while the Harbor Trust Fund matches 40 to 80 percent of the costs of harbor dredging and improvements, with the share paid by the project sponsors increasing with the project depth.

The Federal Government is committed to fully using the funds that people have paid in transportation user charges for investments in transportation.

While the great majority of the Federal funding for transportation in recent years has come from the trust funds for highways, transit, and aviation, many transportation functions, have also been supported from general taxpayer revenues ("the General Fund"), rather than from fees paid by those who use and benefit from the specific functions and programs. For example, approximately 40 percent of expenditures for the Federal aviation program in recent years have come from the General Fund, whereas only about 15 percent of total expenditures are related to military and other public sector use of the aviation system. Furthermore, some groups that benefit from Federal transportation programs, such as Coast Guard or railroad safety inspections, do not now pay any compensation to the Federal Government for costs of the services they receive. The Federal Government will continue to increase reliance on user charges as the key element in financing the Federal share of transportation expenditures.

The Federal Government will preserve the integrity of the trust funds and honor the "trust" in the trust funds by spending the trust funds for the benefit of transportation users. In recent years, the unspent balances in the trust funds for aviation, highways, and transit have led many transportation users to call for increased spending to meet growing program demands and to assure that those who are paying user charges will benefit from them. While there are large balances in the trust funds today, the size of the balances must be placed in perspective. There are significant commitments against the unspent balances. The total uncommitted balances represent significantly less than one year of Federal spending on highways, aviation, and transit.

The Department of Transportation is increasing reliance on user fees—77 percent of the proposed FY 1991 budget would be supported from user fees, in comparison to 67 percent in FY 1990.

The Federal commitment to spending user charges for transportation purposes does not necessarily mean that trust fund revenues must be used only on the mode from which they were collected. For example, Federal motor vehicle fuel taxes paid into the Highway Trust Fund are not limited to spending on the highway system, but can also be used for transit improvements and other projects that reduce congestion for highway users.

In the highway program, both the increased diversity of vehicle types and the growing use of alternative fuels have serious implications for the user fee structure. Changing vehicle sizes and configurations and a changing mix of traffic on the highways have implications for wear and tear, safety, and design requirements. Changing patterns of fuel use also can affect the revenues available to pay for the systems the vehicles use. If alternative types of motor vehicle fuels are partially or wholly exempt from motor fuel taxes, as is the case with gasohol, there will be fewer funds available for financing repair and improvements. Patterns of use and costs on the highways must continually be reexamined relative to the structure of the user charge system to ensure that user charges are adequately and fairly covering costs.

It is Federal transportation policy to:

- **Spend transportation trust fund balances over time in a fiscally responsible way**
- **Continue to use transportation trust funds for transportation purposes**
- **Assure that transportation users bear the maximum practical and appropriate share of the costs of services and facilities they use**
- **Institute user fees to recover costs from users of federally funded or federally provided transportation facilities and services who are not now paying user fees**
- **Conduct a continuing and comprehensive review of the structure and level of Federal transportation user charges to ensure that they provide fair and adequate cost recovery**
- **Minimize evasion of Federal transportation user charges.**

UNPHOTO

Federal and State motor vehicle fuel taxes contribute a large share of total public funds for highways.

Foster State and Local Initiatives

The Nation must also take advantage of the abilities and interests of State, local, and regional agencies in transportation. The Federal Government must provide additional flexibility to State and local governments in making use of Federal transportation funds, as well as increased incentives and technical assistance for innovative financing approaches. Rigid Federal standards governing the way that Federal-aid monies can be used or the specific way that Federal-aid facilities must be built can impose unnecessary costs and prevent State and local governments from pursuing the most cost-effective options. State and local statutes and regulations also create obstacles to innovative and effective transportation financing. For example, local governments generally cannot institute local option taxes to support transportation without special State enabling legislation.

In the last 10 years, we have made great strides in reducing costly and unnecessary Federal regulations that deterred private investment in transportation. Federal policies must continue to foster an environment that encourages private sector participation in financing, managing, owning, and operating transportation facilities and services.

The range of tools and choices available to State and local governments must be expanded. State and local governments should be given wider latitude to impose tolls on highways and other transportation facilities to raise revenues for transportation, even if those facilities are constructed with Federal funds. Given the pressing need for investment in aviation capacity, airports should be allowed to collect passenger facility charges to cover the costs of operations, improvements, and additional facilities to alleviate congestion.

It is Federal transportation policy to:

- **Relax restrictions on the ability of State and local governments to raise revenues and use them for transportation facilities and services, including tolls on highways and airport passenger facility charges**
- **Encourage State and local governments to make use of innovative financing and funding options for transportation to supplement more conventional sources of funds, for example, joint public-private initiatives, benefit assessments on property owners, joint development rights, and other means for capturing the value of transportation projects.**

San Diego Transit Initiatives

In San Diego, the Metropolitan Transit Development Board (MTDB) is working aggressively with the private sector to improve public transit services. Today, 50 percent of the MTDB transit routes and 33 percent of the revenue-miles of its services are provided by private operators, under competitively bid contracts. The Board has also cooperated in innovative public-private sector projects to finance and plan for future needs, including dedication of rights-of-way by land owners adjoining the route of the new Mission Valley light rail line, and joint purchase of an office building that can accommodate MTDB and other business expansion. Public funds for MTDB programs come from a countywide 1/2-cent sales tax for transportation, one-third of which is set aside for transit.

Stimulate Private Investment

Private firms that own and maintain transportation infrastructure and provide transportation services are a vital part of the Nation's transportation system. Private lending institutions and other investors also play a significant role in backing transportation projects. For the transportation system to sustain performance and accommodate increasing traffic, continuing and substantial infusions of private capital will be needed, even in areas that have traditionally been entirely within the public sector in this country. Government bodies at all levels must encourage and welcome private participation and investment in transportation. In rapidly growing metropolitan areas in particular, the private sector can be a major source of much-needed additional transportation capacity. Some State and local agencies are already addressing growing traffic demand by permitting private construction and operation of highways and other transportation facilities, or purchase or long-term lease of existing facilities.

Federal laws and policies can have major impacts on the ability of businesses to raise and invest funds. Rapid changes and uncertainty about government policy make long-range planning and investment decisions particularly difficult. The Federal Government is committed to continued support for stable macroeconomic and tax policies that will create a favorable environment for national savings, equity investment, and devotion of resources to productive new plant and equipment in this country.

There are many areas where increased private sector participation in transportation offers significant benefits, for example, in public transit, passenger rail service, airports, air traffic control towers at low-activity airports, toll roads and bridges, and intermodal facilities. The Federal Government encourages such involvement.

To reduce congestion and help meet air quality goals, some large corporations have developed programs to encourage employees to use ride-sharing and public transit. Discounted transit passes, flexible work schedules, and preferential parking for carpools and vanpools all are examples of the kinds of successful initiatives employers can use.

CSL INTERMODAL

Top-pick "Piggy Packers" have been developed by private industry to speed the loading of containers and trailers onto and off trains.

There are also many State and local barriers to private participation in transportation projects. For example, some State laws prohibit State government bodies from using funds from private developers or other business interests for construction of roads or other transportation facilities; instead, private businesses are required to contract for construction of the facilities themselves and bill the State for the work performed. This kind of impediment blocks what could be more efficient means for addressing transportation needs, driving State and local governments and private companies to pursue more costly and time-consuming administrative and legal mechanisms for achieving the same ends.

It is Federal transportation policy to:

- **Minimize legal and regulatory barriers to private participation in owning, planning, financing, building, maintaining, and managing transportation facilities and services**
- **Encourage State and local governments to remove barriers to private investment in transportation**
- **Continue efforts to increase private sector involvement in transportation where practical and in the public interest, including high-speed passenger rail, mass transit operations, airports, air traffic control towers at low-activity airports, toll roads and bridges, and intermodal facilities**
- **Encourage joint public-private initiatives for financing transportation facilities and operations.**

Keep the Transportation Industry Strong and Competitive

With sound infrastructure as the foundation, successful movement of passengers and freight for the Nation depends on a system of transportation providers—public and private—that are efficient, competitive, and responsive to changing national transportation needs. Private sector providers include railroads, airlines and air cargo carriers, motor carriers and freight forwarders, intercity bus operators, taxi companies, ocean and inland shipping lines, pipelines, and commercial space launch companies. Mass transportation, such as local bus, light or heavy rail and subway service, is most commonly a public sector function, although many carriers are private or quasi-private, including Amtrak and some bus operators.

The efficiency and competitiveness of transportation providers are essential to economic growth and productivity and the ability of the United States to compete in the world market. Providers of transportation services can meet transportation needs most efficiently if the carriers have the latitude and tools to respond to demand and if they are competing on an equitable basis. Federal programs and policies must treat modes and carriers even-handedly, and avoid unnecessary restrictions that impede efficient transportation operations. In addition, Federal policy must aim at eliminating policies and practices in other countries that create barriers for U.S. transportation providers, equipment manufacturers, and other transportation-related companies in the international marketplace. The Federal Government must also ensure adequate competition and foster efficiency in provision of transportation services. Just as vital is a productive work force and a healthy work environment. Labor-management cooperation in transportation is already helping to improve productivity.

"Just-In-Time" Service to the Auto Industry

Introduced first in Japan and now in use in U.S. manufacturing, "just-in-time" production means that raw materials, parts, or other inputs do not arrive at a production plant until immediately before they are needed for assembling the final product. This dramatically reduces the warehouse space and the cost associated with holding inventory; it also places a premium on fast, frequent, and dependable transportation. The "Big Three" U.S. automakers—General Motors, Ford, and Chrysler—have been among the leaders in adopting "just-in-time" manufacturing, and coordinating freight deliveries with trucking companies and railroads to meet the tighter schedules. The railroads have introduced expedited trains and special equipment to serve auto manufacturers' "just-in-time" needs. Trucks, because of their smaller size and greater flexibility in scheduling and routing, have been even more active in "just-in-time" service. For example, every hour the new Chrysler assembly plant in Sterling Heights, Michigan, electronically notifies a supplier located 60 miles away, with an order for the seats the plant will need four hours later. The supplier assembles the seats to fill the order and they are delivered by truck within hours, to be installed in finished vehicles that same working day.

Freight is loaded from the front and side of this 747 cargo plane.

Encourage Increased Productivity and Competitiveness in Transportation

In the course of U.S. history, many modes and transportation systems have been extended direct and indirect public support, to encourage their development and enable them to survive and compete. Today, commercial space transportation is an emerging industry and Federal policies are designed to support its development. After more than two centuries serving U.S. shipping needs, the U.S. merchant marine is having difficulty maintaining its position in the widening and intensely competitive international market. Local public transit and intercity passenger rail service do not cover their costs from farebox revenues, and are receiving substantial Federal, State, and local subsidies to continue operating. In those areas, the goal must be to foster increased efficiency, promote improved service targeted to national needs, and reduce burdensome requirements for Federal support.

Public Transit

Bus, subway, commuter rail, and other high-occupancy services are essential in congested metropolitan regions, and provide mobility for transportation disadvantaged people in urban as well as rural areas. The Nation's largest downtowns depend on public transit to allow workers the flexibility to avoid congested streets and highways and thus ease traffic conditions. One key to the future of transit service is close attention to the costs and benefits of transit operations and investment choices. Transit facilities and equipment must be well maintained, and flexibility in use of funds from Federal, State and local, and private sources must be increased. In addition, in accordance with the principles of user-charge financing and constraints on the Federal budget, expenditures for transit from the General Fund must be reduced. In order to make the best use of scarce public resources, the Administration is proposing to reduce Federal operating assistance for urban transit in FY 1991.

The Nation's largest downtowns depend on public transit to get large numbers of commuters to work without adding more automobiles to congested streets and highways.

During the period of rapid growth in the Federal urban mass transit program, major investments were made in new rapid rail systems in several U.S. cities. The results were often disappointing, in part as a result of the lack of local support for actions to complement the new systems, encourage transit use, and coordinate local bus and automobile movements to the stations. The future success of public transit—and urban mobility in general—hinges partly on integration of transit service with other transportation service, and coordination of transit policies with other urban/suburban policies related to highways, airports, and intercity rail service, as well as local land use considerations. This policy coordination must occur at every stage, including planning, administration, operations, and financing.

The future success of public transit hinges on coordination of transit policies with policies affecting other transportation modes and local land use.

Many government programs and policies have affected the ability of mass transit service to attract riders and to compete with automobile travel. For years, auto users have benefited from substantial Federal, State, and local spending on streets and highways, including space for on-street and off-street parking, and from employer-provided parking facilities or subsidized parking rates which are not subject to Federal income taxes. On the other hand, transit users have received the benefit of more than $2 billion annually in Federal Government outlays for transit from the General Fund and over $1 billion annually from the Highway Trust Fund in recent years. Employers also can offer transit passes or other transit benefits to employees and their value is also not subject to Federal income tax, as long as the benefits do not exceed $15 per employee per month. Local and State governments have many tools and incentives they can apply to achieve the balance between transit and auto use that is appropriate for each metropolitan area.

Washington Metrorail connects at Silver Spring, Maryland, with Metrobus and Montgomery County Ride-On service.

UNIPHOTO

Solving public transportation problems is a shared responsibility between the public and private sectors. The business community, civic and neighborhood groups, and individual entrepreneurs should be encouraged to develop and sponsor services to meet community needs not being met by public transit systems, especially in suburban and inner city areas. Under Federal programs, public transit authorities already are encouraged to make use of private contract services where a private sector option is most cost-effective. Some public transit services are entirely provided under contract with private operators, as a means to improve incentives for efficiency and quality of service, and additional private participation in transit operations should be fostered. Employers, merchants, and real estate developers also must be brought into local discussions of transportation planning questions, particularly in growing metropolitan areas, and directly involved in developing and implementing transportation strategies to reduce traffic congestion and meet emerging needs. These same interests should help finance transportation improvements and coordinate their own activities with transit operations and schedules so that public transportation alternatives become more convenient and attractive for consumers.

After a quarter century of steady decline, public transit ridership stabilized during the 1970's. With Federal, State, and local financial assistance, the transit industry has improved the quality of service, extended service to additional urban and suburban areas and new segments of the market, and improved accessibility for a wider range of citizens, including disabled Americans.

In recent years, attention to the specific public transportation needs of rural areas has increased, and new public transportation options are providing improved access for residents in many communities. A variety of Federal, State, and local programs affect rural public transportation, and they incorporate numerous and inconsistent standards and requirements that often do not meet the particular circumstances of an individual community. Through a coordinated effort by transit planners and operators, private businesses, and community groups, transit service to rural areas can become more efficient and more effective in meeting community needs. The Federal Government must lead the effort to achieve greater consistency and flexibility in rural transportation programs.

It is Federal transportation policy to:

- **Bring the principles of market competition to bear in public transportation and enlist the private sector in solving urban transportation problems**
- **Apply cost-effectiveness standards to federally assisted transit investment**
- **Eliminate disincentives to maintenance of transit equipment and facilities in federally assisted programs**
- **Reduce operating assistance for urban transit**
- **Adjust requirements in Federal assistance programs for public transit, to be more sensitive to the scale and nature of the services and communities involved**
- **Coordinate the transportation programs of the different Federal agencies (Departments of Transportation, Health and Human Services, Agriculture, and Housing and Urban Development) to eliminate duplication, inconsistency, and conflict among programs and improve their effectiveness.**

Rail Passenger Service

The National Railroad Passenger Corporation (commonly known as Amtrak), which runs the national network of intercity passenger trains, has improved its efficiency and service dramatically in recent years. Amtrak has been particularly successful in achieving fast and frequent service and attracting large numbers of passengers in the Northeast Corridor, between Washington, D.C., New York City, and Boston, largely as a result of a large-scale Federal project to rehabilitate track, stations, and other rail facilities in the Northeast Corridor. Although Amtrak has relied heavily on Federal funds along with State funds, the intercity rail passenger system has increased its cost coverage, including capital costs, from 48 percent in Fiscal Year 1981 to 72 percent in Fiscal Year 1989, substantially reducing its requirement for Federal support.

AMTRAK

Improved labor arrangements, modernized facilities, and the introduction of new, more reliable passenger equipment, have made the greatest contribution to Amtrak's increased productivity in the last five years. Amtrak has been able to expand service, add trains, and attract new customers as new cars are delivered. Now approaching its 20th anniversary, however, Amtrak will soon require replacement of many of its original locomotives and cars, and renewal of its authority to operate over the lines of the Nation's freight railroads. With increasing use of rail service and continuing public support, particularly the backing of States and local communities, private financing sources will be able to provide much of the necessary investment for new equipment for Amtrak.

Amtrak's objective is to eliminate the need for Federal operating subsidies by the year 2000; however, current budget constraints limit the availability of funds for Amtrak's present subsidy needs. Accordingly, no Federal subsidy is proposed for FY 1991. The Administration is eager to work with Congress, Amtrak, and other interested public and private parties to determine how best to obtain needed capital from the private sector and to make Amtrak services more cost-effective. The Administration has identified a number of changes that would significantly reduce Amtrak's costs. These include legislation to place Amtrak employees under State Workers' Compensation systems rather than the fault-based Federal Employers' Liability Act; to require States to pay a greater share of the costs of routes that Amtrak operates at State request; and to recover from commuter authorities more of the expense of operating the Northeast Corridor to compensate for the costs imposed by commuter operations that use Corridor track and services. The Federal Government also supports the move to allow Amtrak to pay into the Railroad Unemployment fund only the actual amount that Amtrak employees are paid for unemployment and short-term sickness benefits.

State and local interests, in cooperation with private business, are considering the possibilities for introducing high-speed rail, maglev, or other advanced rail passenger service in high-density corridors in the future.

Amtrak's "Superliners" are among the world's most modern rail passenger cars for long distance travel.

Amtrak Labor Initiatives

Since 1971 when Amtrak took on intercity passenger rail operations from the freight railroads, the railroad has seen a total transformation. Some of the greatest changes have come in Amtrak's work force, productivity, and overall working environment. In its early years, employees of the freight railroads were the backbone of Amtrak's work force. Since then, Amtrak has recruited and trained new employees of its own. Between 1986 and 1988, Amtrak took over responsibility for all the engineers, conductors, and other members of the crews operating its trains. In conjunction with that shift, Amtrak and the workers negotiated changes that reduced total labor requirements, in exchange for adjustments in pay. The new arrangements also provide for pay based on a standard 8-hour day, rather than the 100-mile-day incorporated into freight contracts at the time. The new agreements are saving the railroad $50 million or more each year. In another cost-saving initiative that benefits labor, Amtrak is also modernizing its equipment maintenance shops, thereby improving working conditions and substantially reducing costs as well. With labor accounting for close to 60 percent of Amtrak's total operating expenses, such changes significantly increase its ability to recover costs, improve efficiency, compete for business and sustain quality service.

It is Federal transportation policy to:

- **Continue to promote increased efficiency, service improvements, and cost-effective capital investment in intercity passenger rail operations**
- **Assure recovery of the costs of rail passenger service from passengers and from private, State, and local interests to support operations, capital expenditures, and expanded service**
- **Support repeal of burdensome statutory requirements that unnecessarily inflate the cost of operating intercity rail passenger service**
- **Encourage future development of rail passenger service in high-volume corridors, including introduction of high-speed rail or maglev service.**

General Aviation

General aviation is an important part of the U.S. air transportation sector, serving a wide variety of purposes, including corporate travel, recreational flying, crop dusting, emergency medical services, and mail and package delivery, particularly to remote communities. There are an estimated 600,000 general aviation pilots in the United States. Of the more than 17,300 airports in the country in 1988, approximately 16,700 were small facilities used almost exclusively for general aviation.

Federal rules and policies that apply to general aviation have undergone significant changes in recent years, largely as a result of advances in technology and the rapid growth in use of the aviation system. In making these changes, the Federal Government has been propelled by the need to maximize the safety and efficiency of the airport and airway system for all users. It is essential that Federal aviation policies be sensitive to the needs of general aviation, and that continuing efforts be made to accommodate general aviation within the evolving aviation system and alleviate special problems such as aircraft product liability. At the same time, general aviation must accommodate changes required of all users of the aviation system, in the interests of safety, cost-effectiveness, and efficiency.

It is Federal transportation policy to:

- **Continue to fund reliever airports and supporting facilities for use by general aviation**
- **Provide flight services to general aviation in ways that are both cost-effective and responsive to user needs**
- **Make use of advancements in technology to improve general aviation safety and access to airports and airways**
- **Work with the general aviation community in reducing airspace infractions and achieving greater conformity with Federal airspace rules and other aviation requirements.**

General aviation aircraft landing at a private airport in River Ranch, Florida.

PHOTO RESEARCHERS

Port of Oakland, California

U.S. Merchant Marine

The U.S. merchant marine and shipbuilding industries have declined steadily in recent decades. It is clear that Federal programs, including cargo preference rules and direct subsidies, have not succeeded in keeping the U.S.-flag merchant marine fleet viable and competitive in world trades. Many of the program provisions are anachronisms and an ill-advised burden on the Nation's merchant marine.

Federal laws and regulations impose a variety of restrictions on U.S. shipping lines, which raise costs, reduce operating flexibility, and prevent these lines from competing effectively in the international arena.

Subsidy programs for the U.S. merchant marine must be reexamined. For example, the current operating subsidy program for U.S.-flag linership operators does not provide sufficient flexibility for the carriers to compete in rapidly changing world markets, or sufficient incentives for efficiency gains to improve the competitiveness of the fleet. Adjustments are needed to provide commercial operators flexibility as to trade routes and other operating matters. Federal policies should allow use of foreign-flag feeder vessels and recognize the need for U.S. operators in foreign trades to be competitive in the acquisition of vessels. The Federal Government must explore means to strengthen the competitiveness of the U.S.-flag non-liner fleet also.

The Coast Guard must continue to maintain a policy of substantial equivalence between national and international shipping regulations affecting safety and the environment, to ensure that the U.S. merchant marine does not bear unjustified costs and still maintain adequate safety and environmental protection.

It is Federal transportation policy to:

- **Remove unnecessary Federal requirements that prevent U.S.-flag ships from competing effectively in world trade**
- **Review and restructure Federal maritime programs, including the Operating Differential Subsidy program, to promote cost efficiency in the U.S. fleet, strengthen the fleet's competitive position in the international market, and encourage necessary modernization and expansion.**

Commercial Space Transportation

Commercial space launch services are the newest transportation industry, and one that the Federal Government is committed to promoting. The goal is to extend into space the efficient, diverse transportation capability we have on Earth, and to permit U.S. enterprises to make use of the vast potential of space for telecommunications, materials processing, remote sensing, and other commercial activities. The commercial space transportation industry is already assuming a major portion of the functions once performed solely by the Federal Government, providing U.S. access to space for both commercial and government projects. The industry contributes to economic growth and development, provides employment and income opportunities, improves the U.S. balance of payments, stimulates technological innovation, and advances the Nation's long-term security.

The effort to generate a strong commercial space industry is dependent on reliable and cost-effective launch technologies and other space services. For market forces to foster lower costs and customer-oriented service in this industry, the Federal Government must maintain current policies to ensure that government space activities do not compete with commercial enterprises for business. Private enterprise and government bodies must recognize the realities of an international marketplace characterized by government sponsorship of and financial support for competing foreign ventures.

The Department will work to maximize private sector involvement in commercial space transportation activity, promote public-private partnerships involving State governments and the private sector to build, expand, modernize, or operate space launch infrastructure, and encourage Federal agency and State pilot projects with entrepreneurial space launch providers to foster development of efficient, low-cost private sector space services.

It is Federal transportation policy to:

- **Use commercial space transportation services for government space missions to the fullest extent feasible**
- **Avoid Federal Government actions that duplicate, compete with, or inhibit the development of private sector space launch activities**
- **Review the development and operation of space launch facilities to ensure that they adequately accommodate national commercial space launch needs**
- **Enhance the U.S. commercial space industry's competitive position in world markets and work to ensure fair competition in those markets.**

The first licensed commercial orbital launch at Cape Canaveral Air Force Station, August 27, 1989.

Remove Unnecessary Federal Regulations and Requirements

Transportation was among the first industries to be regulated in the United States. It is generally recognized that Federal regulatory control is appropriate to prevent obstructions to interstate commerce, to encourage consideration of the effects of transportation on the environment, safety, energy, or other important national concerns that might not otherwise be incorporated in public or private decisionmaking. To be most effective, however, government regulation should intervene only where necessary to achieve national goals and only in a way that achieves public benefits at least sufficient to offset the costs imposed by regulation.

The Federal Government has pursued far-reaching initiatives toward transportation deregulation in the last decade, and experience demonstrates that the moves to deregulation were almost universally needed and well-founded. In spite of those initiatives, however, transportation providers in many cases are still subject to inappropriate and unnecessary Federal requirements which continue to cause inefficiencies in the transportation system. Other outmoded regulations remain in place with the primary effect of creating uncertainty and confusion about the extent and nature of potential Federal jurisdiction. The Department supports the economic deregulation of transportation achieved to date, and will encourage additional efforts to reform Federal regulations and requirements that impose undue public costs without commensurate public benefits. To foster the productivity and competitiveness of U.S. industries in domestic and world markets, it is time to eliminate those elements of Federal control. In particular, the Department advocates repeal of all remaining Interstate Commerce Commission regulation of trucking, intercity bus, interstate rail passenger, interstate barge, ferry, pipeline (other than water, oil, or gas), household goods freight forwarder, and freight broker services.

Under deregulation, carriers have become more efficient, more competitive, and more responsive to customer needs.

UNIPHOTO

Trucking Deregulation

Trucking, one of the most competitive of American industries, is still subject to a range of Federal regulatory requirements governing rates and services, involving administrative review and approval of numerous day-to-day business activities. Restrictions on the provision of for-hire transportation should be limited to those necessary to ensure adequate safety and liability requirements. State and local restrictions on providers of transportation should follow nationally established standards. At present, more than 40 State governments impose economic regulations on motor carriers operating in the State, and the regulations are frequently inconsistent from one State to the next. When a national transportation interest is at stake, particularly the flow of interstate and foreign commerce, State and local restrictions must not be allowed to block achievement of the national goals.

State and local restrictions must not be allowed to block national interests such as the flow of interstate and foreign commerce.

It is Federal transportation policy to:

- **Support repeal of remaining Federal laws imposing economic regulation on motor carriers**
- **Ensure that State economic regulation of motor carriers, including intrastate operations of interstate motor carriers, do not conflict with Federal economic regulatory standards for interstate commerce.**

Federal Railroad Reform

Since the Staggers Rail Act of 1980, the U.S. freight railroad industry has been free of the most onerous and unnecessary economic regulations governing rates and services, and the resulting flexibility has led to dramatic improvements in railroads' ability and incentive to offer efficient, competitive transportation. The railroads, however, remain subject to a variety of archaic and outmoded requirements at the Federal level, including the Federal Employers' Liability Act and the Railroad Retirement Act, that keep the railroads from playing the most efficient and effective role in the transportation system and competing on an equal basis with other modes not subject to these unique laws.

In addition, judicial interpretations permitting secondary picketing and other secondary activity against railroads under the Railway Labor Act potentially could be applied to other transportation entities under that Act as well. Singling out railroads or other transportation companies for different and more costly requirements in their day-to-day business than are applied to other businesses and organizations is not justified on economic or general public interest grounds, and should be ended.

It is Federal transportation policy to:

- **Support repeal of Federal statutes that impose undue costs on railroads, to bring Federal treatment of railroads into conformity with treatment of other industries**
- **Oppose secondary picketing and other secondary activity against railroads or other transportation companies.**

ATCHISON, TOPEKA & SANTA FE RAILWAY

Achieve More Consistent Requirements and Standards

Where transportation providers are affected by standards and requirements of other interests, whether public or private, clear and consistent standards and procedures can make a significant contribution to transportation efficiency. For example, in government programs involving registration, vehicle licensing, or taxes for freight carriers, the companies can save the substantial time and cost of uncertainty and duplicative administrative work if the processes are applied consistently over time and uniformly across the various States in which the carriers operate.

Even in areas that are not covered by Federal standards or requirements, but are left to the choice of private companies, such as the size and design of equipment, voluntary agreements to adopt some consistency or standards can streamline transportation operations and avert the waste of having to invest in multiple sets of equipment or facilities. The Federal Government can play a significant part in achieving greater standardization in transportation equipment and international trade and transportation procedures, through its participation in forums for setting national and international standards. The Government can also bring interested parties together to discuss and agree on increased voluntary coordination of standards and procedures in the interest of improved efficiency, in both domestic or international markets. More uniform standards for shipping, handling, documenting, and billing for transportation and international trade in particular would considerably improve the ability of U.S. carriers to handle freight cargoes efficiently and competitively. Finally, up-to-date and internationally harmonious rules governing liability for loss and damage are essential to the efficiency of international transportation.

Standardization of Container Sizes and Handling Processes

A wide range of sizes and types of shipping containers and vehicles is now in use, as well as a variety of designs and types of loading equipment and facilities to handle them. The many public and private entities with an investment in containers, transportation vehicles, or handling equipment in ports and shipping around the world have conflicting interests and some monetary stake in the continuing use of the existing equipment. Greater standardization of container sizes used in freight transportation would make it significantly less complicated and costly to handle containerized cargo, both domestic and international, including the supply and operation of the rail cars, motor vehicles, and ships used for transporting containers, the loading and unloading equipment, and handling and stacking operations at ports and other sites. More uniform equipment sizes and types would increase compatibility of vehicles and containers between carriers and modes, and thus the efficiency of cargo transfers en route from origin to destination. Greater standardization in billing and electronic data interchange will also expedite movements and reduce costs.

***U.S.** carriers and shippers could realize substantial savings if they did not have to accommodate so many different sizes and types of equipment for handling freight.*

Under the established domestic weight limits for moving freight on U.S. highways, significant numbers of overweight containers are being shipped over those highways, causing additional wear and safety concerns, without adequate contribution in highway user fees to compensate. Motor carriers presently bear many of the costs and penalties of carrying overweight containers. Stricter enforcement of weight limits could alleviate the problems somewhat, but questions of incentives and liability for overweight shipments would still remain. A solution to overloading, which might take the form of more uniform domestic or international standards or more stringent procedures for billing or handling cargoes, will require coordination between government agencies, carriers, shippers, and other parties involved in the transportation chain, including those in the U.S. and in other countries.

It is Federal transportation policy to:

- **Work with carriers and shippers to achieve greater standardization in domestic transportation equipment, billing, and electronic data interchange among carriers and other parties involved in the transportation movements**
- **Seek international agreement on more uniform standards for container sizes and similar issues involving handling and documentation of international cargoes, as well as updated rules governing liability for loss and damage**
- **Explore with shipping lines, motor carriers, ports, and shippers potential methods to reduce the number of overweight containers moving on U.S. streets and highways.**

Administrative Requirements for Motor Carriers

The individual States impose differing registration requirements on motor carriers operating within their borders and they maintain different methods for motor carrier tax reporting and billing. This creates a confusing and overlapping array of administrative procedures for carriers to meet, and places a burden on interstate commerce that is difficult to justify. While each State can decide the form and level of taxes and the rates to charge, the national goal should be to achieve a coordinated approach for motor carrier registration and tax reporting by all the States. The National Governors' Association (NGA) has adopted recommendations for such a uniform motor carrier registration and tax reporting system, and many States have accepted the recommendations. The time has come to establish deadlines for the remaining States to implement conforming systems.

The States also issue permits for oversize and overweight truck movements, but they do not all have consistent permitting practices. Greater uniformity in permitting standards among the States would reduce uncertainty, delays and inefficiencies for interstate carriers, and potentially reduce costs to shippers as well.

It is Federal transportation policy to:

- **Promote uniform motor carrier registration and tax reporting requirements among the States**
- **Establish deadlines for the individual States to adopt NGA recommendations for motor carrier registration and tax reporting procedures**
- **Promote uniform national permit practices by States for overweight and oversize truck movements.**

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Local Restrictions on Aviation

At the same time that an airport can generate considerable economic benefit to a whole city or region, aircraft noise can impose a significant environmental burden on certain areas surrounding airports. In the early 1970's, approximately 7 million people in the United States were exposed to levels of aircraft noise above accepted standards for residential areas. Today, even with a doubling in the number of scheduled aircraft operations, the number of people exposed to the same level of aircraft noise has been reduced by more than 50 percent, to an estimated 3.2 million. The trend is forecast to continue into the early years of the 21st century, reducing the affected population to 1.1 million people by 2010. At the local level, effective programs can help ensure compatible land use around airports. Little progress has been made in this area. Most of the reduction in noise exposure has resulted from the introduction of quieter aircraft by airlines and the phasing out of noisier (Stage 2) commercial aircraft. The forthcoming restrictions on Stage 2 aircraft in the European Economic Community pose a risk that some additional Stage 2 aircraft will be shifted to use in the United States. Continued use of Stage 2 commercial aircraft in the U.S. will have to be carefully evaluated in terms of the impact on the communities surrounding airports, the aviation industry, and the traveling public. Federal funds will not be available to cover costs of Stage 2 phaseout.

Despite the significant reductions that have been made in aircraft noise, community concerns have led to the imposition of a number of restrictions on aviation. These restrictions can reduce the ability of the aviation system to meet transportation needs and can have adverse economic effects on communities and airport users. Aircraft noise concerns are also an obstacle to construction of new airports or new capacity at existing airports. The issue is complex, involving concerns over liability for noise impacts, the financial cost of upgrading aircraft noise control standards, and protection of interstate commerce. Interested parties, including the airline industry and State and local governments, have presented a panoply of options ranging from

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a completely hands-off approach to the issue at the Federal level, to continuation of the current system, to total preemption of State and local regulation of aviation noise. The Department is committed to improving environmental quality and providing the leadership that will promote the effective utilization of system capacity in order to meet the demands of interstate commerce while recognizing the rights of State and local governments to impose land use controls. The impact of noise restrictions, phasing out of Stage 2 aircraft, and effective local land use controls around airports should all be considered in resolving this issue.

The impact of noise restrictions, phasing out of Stage 2 aircraft, and effective local land use controls should all be considered in resolving airport noise issues.

It is Federal transportation policy to:

- **Work with the aviation industry, State and local governments, and affected community groups to encourage development of local tools for ensuring compatible land use around airports, and to facilitate the orderly and expeditious phaseout of Stage 2 commercial aircraft without use of Federal funds**
- **Prevent noise-related restrictions that are unreasonable, arbitrary, discriminatory, or an undue burden on interstate commerce, and work with local communities and airport users to deter local actions that unreasonably interfere with system efficiency or increase system costs.**

Reassess Federal User Charges and Subsidies to Ensure Competitive Equity

Federal programs designed to support transportation can distort competition and even discourage efficient allocation of resources among modes and segments of the transportation system. The various modes of domestic transportation receive a variety of direct and indirect Federal subsidies, in the form of appropriations as well as tax and other policies. It is essential to review periodically Federal policies and subsidies to domestic transportation, including barge operators, waterways, motor carriers, rail, and airlines, to identify and correct the unintended and undesirable effects on the competitive status of carriers and modes.

Federal User Charges and Modal Subsidies

To the extent that transportation projects receiving Federal aid are funded through user charges, particularly as Federal aid programs are refocused, the structure of user charges must be continuously reviewed to assess the pattern of use on the facilities by various groups and classes of users, and to determine the appropriate allocation of costs among the groups. On the highways, for example, private automobiles and other personal motor vehicles share the system with commercial trucks, intercity buses, and other commercial vehicles. The weights and sizes of these vehicles vary widely and the range and mix continue to change over time. The level of Federal highway user charges can affect transportation choices and the competitiveness of various classes of highway users and of highway vehicles in comparison to alternative modes of transportation. Those charges must be set according to the costs imposed by each class of users.

Some of the costs imposed by various groups of users on the transportation system do not relate directly to the costs of construction or maintenance of the infrastructure, but instead to safety or environmental mitigation costs. As is the case with the costs now recovered through user fees, if certain users impose those additional costs on a system, they should for the sake of fairness pay those costs. The costs of safety and environmental impacts are much more difficult to measure than direct costs; however, attempting to estimate their magnitude and incorporate them into user charges may offer public benefits. If users had to face the costs of these additional burdens they are imposing, they would have greater incentives to adjust their activity to minimize the costs they were being assessed and thus reduce the adverse environmental, safety, or other costs on other users, the system, and the Nation in general.

Subsidies and programs other than user charge systems can also introduce distortions in competitive equity. Just as in the case of the allocation of user fees among groups of users, differences in subsidies among modes or forms of transportation can affect the ability of an entire mode or system to compete according to its true economic costs, and in the long run can even threaten its ability to survive. Some Federal programs, in fact, act in direct opposition to each other; others create unnecessary administrative procedures and mechanisms in order to make treatment of one mode conform to previous treatment of a competing mode. Like user fees, direct subsidies and tax policies affecting each mode should be based on a full assessment of public costs and the benefits offered by each mode, and differences should reflect a careful balancing of national goals.

Transportation user charges must be set according to the cost imposed by each class of users. If certain users impose additional costs on a system, they should pay those costs.

It is Federal transportation policy to:

- **Review Federal transportation subsidy programs and other policies affecting competition in transportation, and restructure where appropriate**
- **Move toward Federal transportation user fees that recover from users their proportionate share of costs, for example, by establishing new user fees for Coast Guard and Federal Railroad Administration safety services**
- **Maintain the principle that maximum truck size and weight limits should be based on a full assessment of the public costs and benefits and, if the limits are changed, highway user charges should be adjusted accordingly**
- **Minimize potential for federally subsidized transportation services to offer unfair competition to other modes or services.**

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Improve Access of U.S. Companies to International Markets

Our international competitiveness is affected not only by the efficiency of our transportation carriers but also by the ability of our transportation companies to gain access to world markets under the complex system of international agreements, duties, and subsidy programs of other countries. Without that access, the transportation industry cannot make its full contribution to the Nation's economic health and security. Policies on international trade, international negotiations, and other foreign relations matters all have an effect on this issue.

The Department of Transportation is an active participant in international negotiations involving U.S. transportation companies, including negotiations of agreements governing the routes a U.S. carrier can use to and from other countries and the services that can be offered. Bilateral and multilateral agreements entered by the Federal Government cover air travel gateways for U.S. and foreign airlines, the air carriers allowed to operate into and out of those points, and access for U.S. shipping lines. Trade policies and agreements also can affect markets for U.S. transportation technology, equipment, and transportation-related services, including transportation engineering and consulting.

U.S. international competitiveness is affected by the efficiency of our transportation carriers and by U.S. companies' access to world markets.

The U.S. and Canada, our largest trading partner, have long had smoother, more open transborder movement of passengers and freight than neighboring nations in much of Europe or the rest of the world. Recent regulatory reforms in transportation in the United States and Canada have created comparably open access for carriers in both countries. By reducing barriers that formerly applied to goods and many services, the free trade agreement between the two countries has set the stage for a substantial expansion in U.S.-Canada trade and created many opportunities for companies engaged in cross-border transport. The Federal Government is continuing to seek a more open and equitable overall competitive transportation environment

with Mexico, our third largest trading partner. A significantly expanded aviation accord between the U.S. and Mexico has improved air passenger and freight services and increased opportunities for air carriers of both countries.

Even more can and must be done to expand our international transportation services. For example, many cities place a high value on air service to foreign countries, to develop tourism, business opportunities, foreign investment, and jobs in the local communities, and they would welcome such service by U.S. or foreign carriers. To address those communities' interests, while ensuring that the interests of U.S. carriers are properly taken into account, the Federal Government will continue to pursue new approaches to allowing additional air service to U.S. communities.

Restrictive policies of some foreign governments limit operating flexibility and the introduction of new technologies, reduce efficiency, and in some instances discriminate against U.S. companies, placing them at a serious competitive disadvantage vis-a-vis foreign firms. The Department must renew efforts to eliminate barriers to U.S. carriers and to secure an equitable competitive environment for U.S. transportation companies. Unfair and/or discriminatory treatment of U.S. air, space, maritime, and surface transportation companies and supporting businesses should be redressed through applicable bilateral mechanisms or through imposition of sanctions provided by U.S. law.

The Department must renew efforts to eliminate barriers to U.S. carriers in international trade and to secure an equitable competitive enivronment for U.S. transportation companies.

The Federal Government must scrutinize proposed new or amended international agreements and conventions, as well as domestic legislation and regulations, to avoid impairing the competitive posture of U.S. companies in international markets. The Department must maintain and strengthen the position of U.S. transportation interests in those negotiations in order to achieve a more liberal world trade environment for U.S. transportation firms and improve their access and international competitiveness.

It is Federal transportation policy to:

- **Remove barriers to efficient movement of travelers and goods into and out of the United States, including tariffs and duties and artificial restrictions on trade and transportation**
- **Improve access to international markets for U.S. carriers and transportation services**
- **Protect U.S. transportation companies from unfair and discriminatory practices of foreign countries, including government supports that place U.S companies at a competitive disadvantage**
- **Improve access to international air transportation for U.S. communities**
- **Increase international exchange of transportation technology, emphasizing developing markets abroad for U.S. transportation products and identifying U.S. and foreign technologies that can be profitably applied by U.S. carriers to increase the competitiveness of U.S. transportation service.**

Assure a Productive Work Force and Work Environment

The efficiency and safety of the transportation system will always depend on the people operating and managing the vehicles and facilities. To achieve productive transportation operations, we must also have a cooperative transportation working environment, and one that is safe for the employees.

Like other aspects of American business and transportation, the transportation labor situation has been strongly affected by technological innovations, change in the type and mix of companies, geographic shifts in the economy, and the pressures for efficiencies and cost reductions caused by increasing competition in the world marketplace. Labor and management approaches designed for a time of unchallenged growth in business have had to be altered to suit different market conditions. The new economic environment requires adjustments in institutional practices, relationships, and traditions that have a long history and, therefore, are most difficult to change. With greater communication and cooperation between labor and management, the key parties in providing transportation service can help to plan and achieve a successful and productive future for their industry. Human resources issues and the contribution of the human element of transportation must be recognized and addressed. Greater awareness by all parties of the critical issues affecting the individual organizations and the transportation system as a whole provides an essential foundation for meeting mutual goals.

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Maintenance shop for light rail vehicles, Southeastern Pennsylvania Transportation Authority, Philadelphia.

The transportation labor force is diverse and requires widely varied and often highly technical expertise. Airline pilots, railroad engineers, drivers for the buses and trucks and other commercial vehicles, sea captains, and other operators of transportation vehicles are only the most visible examples of the people working in the transportation industry. Reservation specialists, vehicle dispatchers, terminal operators and station attendants, mechanics and maintenance workers, data-processing experts, and office support personnel, as well as safety experts, operations research specialists, scientists, engineers and designers, economic and financial advisers, administrators and managers—all these people play critical parts in the transportation system, in both the private and public sectors. Throughout all segments of industry, corporate America relies on transportation professionals to manage distribution of goods and achieve the efficient delivery of services that is essential for the economy to function. The Federal Government must also ensure an adequate Federal transportation work force, including air traffic controllers through sound recruitment and training.

At the same time that public expectations of transportation service and safety are rising, the transportation vehicles, maintenance equipment and techniques, construction designs and practices, and transportation management responsibilities are also becoming increasingly complex. Transportation providers, working with universities and other educational institutions, must ensure that the necessary programs are available for training transportation workers and preparing managers and other employees to adapt to the new

challenges and opportunities in transportation. In the next decade and the next century, women and members of minority groups will be an increasing share of the Nation's population and labor force, and it will become particularly important to improve training opportunities and recruitment of minorities and women.

It is Federal transportation policy to:

- **Promote a cooperative work environment in transportation, and ensure that transportation workers can depend on safety in the workplace**
- **Cooperate with transportation companies and others in the private sector as well as universities and other educational institutions to develop specialized programs for training transportation personnel at all levels**
- **Work with industry to identify future transportation work force needs and promote the development of recruitment programs to meet those needs, including recruitment of women, minority, and disabled employees**
- **Improve personnel support systems, including recruitment and training, for high-skill Federal transportation positions, such as air traffic controllers, engineers, and transportation safety inspectors.**

The Federal Highway Administration training program gives a new generation of engineers field experience in highway project management.

Ensure that the Transportation System Supports Public Safety and National Security

Nothing is more important to the American people than their safety and security, and the security of the Nation. Beyond safety on the streets of their neighborhoods and communities, transportation safety concerns extend to the safety of travel on the highways and in the air, on railroads and boats and ships; releases of hazardous materials in transportation accidents; and criminal or terrorist acts against travelers and the transportation system. Transportation also plays an essential role in supporting the national defense, as well as overall national security, including security against the threat posed by the international trade in illicit drugs. Federal transportation policies must address all of these concerns.

The Department will not deregulate safety. Economic deregulation of transportation has reduced restrictions on carriers' rates and routes, but it has not reduced the Federal commitment to safety. Accident rates are lower than they were 10 years ago, before deregulation, and the President has established a firm goal of reducing accidents and fatalities still further.

Improve Transportation Safety

Safety is the top priority for the Department of Transportation. No one can travel in comfort and peace on a transportation system that is not safe. The Department has responsibility for assuring transportation safety in all modes—highways, aviation, space, public transit, railroads, pipelines, waterways, and maritime. More of the Department's employees are devoted to safety than to any other function in DOT. The Federal Government's safety activities—in fact, all public safety initiatives—rest on public awareness and education, sound engineering and operating practices, supplemented by effective enforcement and continuing research and analysis on the best approaches to meet safety goals. Those elements are the foundation of Federal policies governing transportation safety.

Safety Initiatives Across All Modes

Despite many differences among modes in the nature of the vehicles and services and the specific circumstances in which they are operated, safety is a critical factor in all segments of the transportation industry. The major safety objectives and initiatives are also common to all transportation markets and modes: any safety effort in transportation must take into account the driver or operator, the vehicle and equipment the operator is using, the infrastructure they employ, and the way the three elements interact. Drivers, pilots, ship captains, locomotive engineers, and other transportation personnel must receive adequate training to operate vehicles and systems safely, and they must keep safety foremost in their minds at every phase of their work. The vehicles they operate must also be safe, from the basic design, materials, and assembly through to maintenance and inspection as the vehicles are used. Roadways and bridges, railroad tracks, airport runways, waterways and maritime facilities, stations and other transportation structures must be designed and constructed for safety, and adequately maintained to permit continuing safe operation. Finally, the interaction among individuals, vehicles, and transportation facilities has to

work effectively if operations are to be safe. That is a necessary underlying focus for all transportation safety initiatives.

The Department will continuously monitor the safety performance of the transportation system, collect comprehensive and comparable accident data across all transportation modes, and pursue the regulations, enforcement, and other programs necessary to ensure safety. Questions of operator licensing and use of event recorders like the aircraft "black box" are still under study for other transportation modes, and other safety measures will be undertaken as problems appear or options emerge that have the prospects of offering safety benefits. Greater awareness of the importance of safe operations is essential, not only among government employees, but among all members of the transportation community. To ensure attention to safety, programs must be increased for training operators and others involved in transportation. The Department will assist in developing training materials and provide technical assistance for training transportation personnel for safe transportation operations. Safety regulations in all modes will be reviewed and updated to adjust to new technologies and new systems. DOT will also pursue programs to improve the safety of basic transportation facilities and vehicles, including specifications, design criteria, and construction practices that provide earthquake resistance commensurate with the seismic risk for the particular region.

Drug and alcohol use by operators of transportation vehicles and other transportation personnel in the public and private sectors can have enormous implications for public safety. We must increase awareness of the devastating effects of drug and alcohol abuse on the performance of transportation operators and other personnel, and prevent abuse of drugs and alcohol in transportation. The President's initiative for a drug-free America is being carried into transportation, both local and interstate, through a concerted campaign for a drug-free transportation system. Federal laws and rules requiring drug and alcohol testing for public and private transportation employees provide one essential tool. We must also maintain effective prevention and rehabilitation programs, in conjunction with strong enforcement of regulations and penalties.

It is Federal transportation policy to:

- **Maintain a high level of transportation safety**
- **Improve reporting on accidents, data on exposure to risk, and information on trends and patterns to identify potential safety problems and causes**
- **Review new designs for transportation vehicles to detect any safety problems and conduct special studies of vehicles and facility designs already in use, when accidents or safety complaints indicate a serious problem**
- **Continue efforts to have elected officials, law enforcement organizations, and the private sector devote more resources to safety, including public awareness, enforcement, and training of public and private sector employees involved in maintaining safety**

Within one-tenth of a second after impact, the airbag in this test vehicle is filled to create a protective cushion between the occupant and the steering wheel, dashboard, and windshield. Less than one second later, the airbag deflates. Airbags used with safety belts can reduce the chance of a fatality by 45 to 55 percent.

- **Devote maximum effort to eliminating use of alcohol and drugs in transportation, through education and public awareness, operator screening and testing, and strict enforcement of regulations, in conjunction with effective rehabilitation programs**
- **Reduce occupational health risks for transportation workers.**

Highway Safety

By far the greatest number of transportation-related accidents each year occurs on the Nation's streets and highways. If the present pattern in death rates per vehicle continues, the total highway deaths could reach more than 60,000 a year early in the next century. The Nation cannot tolerate such senseless loss. It is our mutual responsibility to take strong action to attack the problem.

More than 47,000 people died in 1988 in motor vehicle accidents. It is unforgivable for a system that is intended to provide service to people to be the instrument of so many deaths. We can and we must do more to reduce the death toll on the Nation's streets and highways.

The President has established the goal of cutting the death rate in traffic accidents to 2.2 fatalities per hundred million vehicle-miles by 1992, down from 2.3 in 1988 and 3.3 in 1978. The aim must be to continue to cut the death rate and reduce the traffic death toll below the current level through the next decade, even in the face of increasing travel. It will never be possible to eliminate all traffic accidents and injuries, but we must all commit our energies and resources to reducing the toll.

Many factors contribute to traffic deaths and injuries, including drivers impaired by alcohol and drugs, poorly designed and maintained highways and signs, and occupants who fail to use their safety belts. The increasing use of passive restraints in automobiles, and the fact that much of the expected increase in travel will be in urban areas at slower speeds, will contribute to the goal, but additional steps are necessary. Human factors, particularly driver behavior, are the largest single cause of accidents on the Nation's roadways. The Department will continue to work with State and local governments, the private sector, and the general public to ensure safer roads and safer vehicles, to keep drunk and drugged drivers off the road, to assure enforcement of speed limits, to increase safety belt use, and to improve public awareness of the need for safe driving behavior and effective safety programs to achieve it. Fast response by emergency medical teams is also essential to save lives after accidents occur.

United Parcel Service Truck Safety Program

A corporate commitment to safety, backed up with a comprehensive safety program, has helped United Parcel Service (UPS) achieve a highway safety record considerably above the industry average. UPS's safety program includes top driver qualifications, rigorous training, regular vehicle schedules, and stringent vehicle maintenance. Honors awards are given to employees for safe driving, and it is not uncommon for UPS drivers to achieve 25 or more years of accident-free driving. Drivers are assigned to the same vehicle over long periods of time, thus improving their familiarity with the vehicle's driving performance. UPS also follows special maintenance practices and strict preventive maintenance inspection standards, which improve the reliability of their trucks and also extend vehicle service life.

Human error is also the critical factor in most truck accidents, and the Department is emphasizing activities that will improve motor carrier driver safety, along with vehicle safety. The Department has a new, multifaceted motor carrier safety program targeted at licensing and training, increased roadside inspections of drivers and vehicles, and State reviews of carriers and shippers following Federal standards and procedures. An essential component of that effort is consistency between Federal and State motor carrier safety regulation, coupled with uniform enforcement and penalties across the States, focused on the highest-risk practices and behaviors. The Department will also work with the motor carrier industry to improve carriers' inhouse training, driver and vehicle inspection, and maintenance programs, to increase operating safety.

One of the most important initiatives for improving the safety of commercial vehicles on the highways is to assure that commercial drivers have a single operator license that is recorded and monitored nationwide, so they cannot escape enforcement of traffic safety laws by obtaining more than one license.

Wherever multiple forms of transportation or types of vehicles share rights-of-way, safety issues are magnified, both where passenger and freight traffic use the same facilities and also where different types of vehicles and forms of transportation cross paths, such as at railroad-highway grade crossings and in situations where pedestrians or bicyclists encounter motor vehicle traffic. Over 600 people died in 1988 in collisions between motor vehicles and trains at railroad-highway grade crossings. Safety in those situations requires public awareness and attention to the dangers and difficulties involved.

Pedestrian safety must also be protected. Last year, more than 8,000 pedestrians died in traffic accidents, including many young children and elderly persons. As the population ages, special measures will have to be taken to maintain traffic safety and address the special needs of elderly and disabled drivers. Technological advances, such as on-board computers and remote readers and sensors already available today, can provide dramatic safety benefits, including alerting drivers to hazards or congestion on the roads, providing routing information, assisting drivers with vehicle control, checking licensing or registration and the condition and functioning of mechanical systems in the vehicle, tracking the location and speed of commercial vehicles, weighing trucks, and monitoring commercial drivers and vehicle operation. Implementing these systems could provide significant benefits to drivers, including elderly and disabled drivers, to traffic safety enforcement officials, and to companies that maintain and operate commercial transportation services.

From 1983 to 1988, safety belts saved an estimated 15,000 lives and prevented an estimated 404,000 moderate to critical injuries.

It is Federal transportation policy to:

- **Encourage all States to enact laws requiring use of safety belts and motorcycle helmets, and to strengthen laws against drunk and drugged driving**
- **Conduct a coordinated national campaign to increase public awareness of traffic safety issues, promote improved driver training, achieve more effective driver licensing and driver records, build support for traffic safety laws, and change unsafe driving behavior**
- **Target Federal financial support and technical assistance to promoting more effective enforcement of laws and regulations governing speed limits, motor carrier safety, drunk and drugged driving, and use of safety belts, child safety seats, and motorcycle helmets**
- **Develop rules to require vehicle design improvements to increase occupant protection and improve vehicle crash avoidance capabilities, and continue efforts to keep unsafe vehicles off the roads, through close monitoring and recalls of defective vehicles**
- **Work with States and private industry to improve motor carrier safety, beginning with prompt implementation of the Commercial Drivers License program**
- **Increase pedestrian safety through public information and improved crosswalk design, signaling, school crossings, and sidewalks**
- **promote safer design and maintenance of highways through engineering standards and signing systems that are more sensitive to the needs and abilities of drivers, including the growing population of elderly drivers.**

Aviation Safety

The U.S. aviation system has the safest record of any mode of passenger transportation in the Nation, but continued vigilance will be required to preserve that record. Major challenges to aviation safety today include revolutionary changes in aviation technology; aging aircraft; human error in the interaction between operators or other aviation workers, aircraft and equipment; and the pressure of increasing travel demand.

The central role of the individual in the aviation system for the present and the future must be recognized above all in efforts to improve aviation safety. Human error has been identified as a causal factor in 66 percent of fatal accidents on air carriers, 79 percent on commuter airlines, and 88 percent in general aviation. This has been a source of increasing concern to both industry and government. The Federal Aviation Administration (FAA) is developing a comprehensive human factors program involving both Federal and private sector activities, including aircraft design and maintenance, pilot training, air traffic control, and communications between pilots and air traffic controllers.

FAA will ensure that aviation safety measures keep pace with the rapidly growing number of aviation operations. Implementation of the National Airspace System Plan and follow-on modernization of air traffic control equipment and procedures will contribute significantly to that goal.

Pilots training in a 747 flight simulator.

PHOTO RESEARCHERS

To ensure the highest level of safety, the FAA will adjust regulatory standards and enforcement practices as necessary. One critical ongoing activity involves monitoring the performance and condition of aircraft in use, and reviewing the new aircraft being introduced into the aviation system to assure that they meet high safety standards.

FAA recently joined in a top-level government/industry task force to examine the issue of aging aircraft, and is now carrying out the task force recommendations. The intensive and cooperative nature of this effort permitted important improvements in the safety of aging aircraft to be developed and implemented on a fast track. The agency will also continue to improve methods of measuring aviation safety and increase the industry's accountability for achieving and maintaining safety standards.

The FAA is developing a comprehensive human factors safety program involving the Federal Government and the aviation industry.

In international aviation, the key to safety is increased standardization worldwide, based on strong safety requirements for air traffic control systems and procedures, airport design and operation, maintenance and operation of aircraft, and operator training. The Department will press for greater consistency in standards for international aviation, so that U.S. airlines and passengers can be assured of safety wherever they travel in the world. Up-to-date and internationally harmonious liability requirements covering aviation accidents are a related and important goal. Senate ratification of the Montreal Protocols, for example, would help to ensure fair and timely compensation for the families of victims of international air crashes.

It is Federal transportation policy to:

- **Increase industry accountability for aviation safety performance**
- **Undertake a comprehensive program of human factors research and apply the results to improving technology, training, and procedures, with special attention to the pilot-aircraft interface**
- **Carry out the National Airspace System Plan and follow-on modernization, to ensure that growing demand can be safely accommodated by the air traffic control system**
- **Ensure that regulatory standards and FAA surveillance keep up with technological advances, aging aircraft, and the growing number of aircraft operations**
- **Work with other nations and international organizations to develop and implement strong and standardized aviation safety requirements worldwide**
- **Press for ratification of the Montreal Protocols to provide updated and internationally uniform liability requirements governing international aviation accidents.**

The Coast Guard saves approximately 6,000 lives and $1 billion in property annually through "Search and Rescue" missions.

Safety on the Waters

Drownings in recreational boating are the third highest cause of transportation-related deaths in the United States each year. Maritime safety is also essential to effective movement of commercial traffic, in domestic and international trade. The most important mission of the U.S. Coast Guard is to protect life and property on the seas and the Nation's navigable waters. One essential element is search and rescue capability to respond to emergencies on the waters, including recreational and commercial vessels in distress, and to perform other search and rescue activities on the oceans and inland waters. The Coast Guard also develops and enforces regulations to ensure safe vessel construction and operation of both commercial shipping and pleasure boating, in order to prevent accidents. Adequate operator training and sound operating practices are also critical to maritime safety. Particular attention must be paid to preventing drug and alcohol abuse by vessel operators and boaters.

It is Federal transportation policy to:

- **Maintain a strong and effective Coast Guard to protect life and property in maritime environment, including search and rescue capability**
- **Develop and implement a program for cooperative enforcement agreement with States that have "boating while intoxicated" standards**

- **Pursue ratification of Standards for Training, Certification and Watchkeeping of Seafarers, developed by international convention in 1989, and provide guidance on enforcement**
- **Reexamine periodically the records of merchant mariners to ensure that personnel remain competent, qualified, and able to operate vessels safely**
- **Continue to assess needs for improved navigational aids and marine Vessel Traffic Systems to guide and control ship movements.**

Public Transit, Railroad, and Pipeline Safety

While the number of accidents and deaths in surface transportation not involving highway vehicles is small relative to traffic fatalities, safety in those other modes is an essential component of meeting national safety goals. The safety responsibility of the Department of Transportation covers railroads, public transit, and pipelines carrying gas, petroleum, chemicals, and other products. Reducing accidents and fatalities in those systems is a critical facet of the Department's overall safety program.

Rail transportation is the safest form of surface transportation for intercity passengers, and public transit has a considerably better safety record than private motor vehicles. Pipelines, because they are primarily underground and operated without vehicles and therefore without human vehicle operators, do not face many of the greatest hazards associated with surface transportation. The largest single cause of pipeline failure is damage from outside forces, including excavation and natural causes such as land subsidence around the lines. For each of those transportation systems, DOT will continue to assess data on accidents and risk exposure, giving particular emphasis in its safety programs to situations and system characteristics associated with the greatest frequency of accidents and other safety incidents.

Aside from emphasis on safety in construction and the role of human factors in safe operation, regular inspections and attention to metal corrosion and other component failures are critical to safety in railroads and rail transit, as well as product pipeline systems. Visual inspections can and must be done periodically on rail track. Underground pipelines are more difficult to inspect. New methods of using electronic equipment and ultrasonic sensing devices improve the ability to detect problems in rail and pipeline systems and equipment. Most U.S. petroleum product pipelines—representing about half the non-water pipeline mileage in the Nation—were built before 1950. The majority of gas transmission lines were built in the 1950's and 1960's. As the years go by, measures to offset the effects of time will be increasingly important, including frequent monitoring of pipeline condition, corrosion control programs, and targeted rehabilitation and replacement. The operators of rail and pipeline systems have the primary responsibility for preventive maintenance and safety of operations, but Federal employees, working in conjunction with State inspectors, have a monitoring and enforcement function.

It is Federal transportation policy to:

- **Promote safety in public transportation by encouraging the development of industry safety standards, implementation of comprehensive system safety plans by providers of transit services, improved safety training, and more rigorous oversight by State authorities**
- **Ensure effective monitoring and safety enforcement for railroad track, equipment, and operations**
- **Develop regulations covering locomotive engineer qualifications, safety of employees working on railroad bridges, and maintenance of signals at railroad-highway grade crossings**
- **Increase pipeline inspection and enforcement activities targeted to systems identified as posing particular risks to public safety.**

Safety in Hazardous Materials Transportation

The transportation of hazardous materials is a subject of considerable concern in American communities, because of the real and perceived threats these materials can pose to public safety and health, as well as to the environment. The Department of Transportation is responsible for collecting hazardous materials safety data and identifying potential safety risks and problems. Based on identified risks, DOT also develops rules and standards for the safe transportation of hazardous materials in all modes highways, rail, air, water, and pipelines.

State and local governments also have a major role, both in enforcing hazardous materials regulations and in responding to hazardous materials accidents and spills. For highway movements of hazardous materials, the Federal Government has concurrent responsibility with State and local governments in the area of routing, with the State and local governments making the actual routing decisions, based on standards set by the Department. The Department works extensively with other Federal agencies and State and local groups to prevent hazardous materials accidents in all modes and to improve accident prevention, preparedness planning for hazardous materials accidents and response capabilities at State and local levels. Federal rules are aimed at ensuring that hazardous materials are properly identified, packaged, and handled, and that incidents involving release of hazardous materials are held to a minimum. Additional steps are needed particularly to improve the system of handling highway movements of hazardous materials and ensuring domestic standards that are effective and do not conflict with international standards in a way that unduly impedes U.S. companies in marketing and shipping products.

It is Federal transportation policy to:

- **Compile hazardous materials safety data across all modes and conduct regular analyses of the data to identify potential safety problems**
- **Develop effective hazardous materials regulation, enforcement, and preparedness strategies to deal with evolving materials and technologies and identified safety risks in all modes**
- **Extend Federal hazardous materials regulations to cover all intrastate movements of hazardous materials by commercial motor carrier**
- **Formalize the concurrent Federal and State jurisdiction in the area of highway routing of hazardous materials movements, with provisions for resolving disputes between the Federal Government and State and local governments, and between and among States**
- **Expand the scope of training requirements for handling and dealing with hazardous materials in the transportation system, to include not only regulatory compliance but also hazard awareness, avoidance, and mitigation**
- **Adopt hazardous materials packaging standards that are based on performance criteria rather than detailed design specifications, to accommodate technical innovation**
- **Implement Federal hazardous materials standards for domestic movements by the various modes that are, to the maximum extent consistent with safety, and compatible with international standards, in order to facilitate foreign trade and maintain the competitiveness of U.S. goods.**

UNIPHOTO

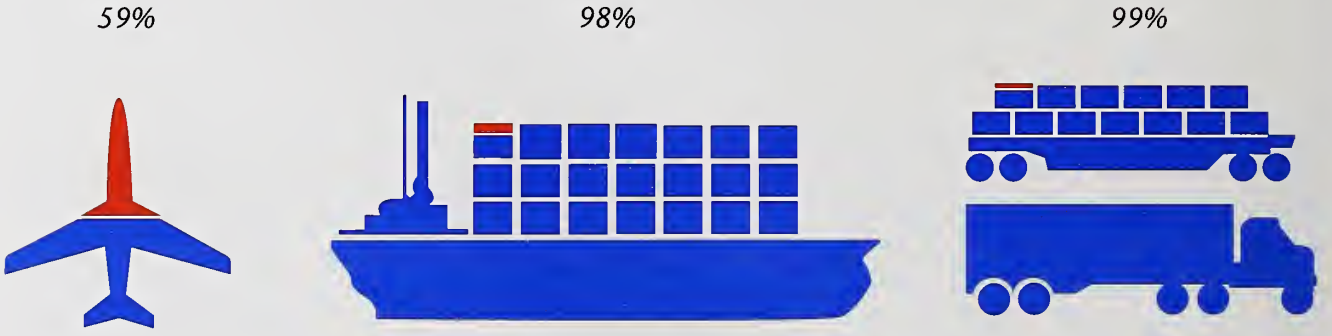
Maintain National Security

The transportation system supports our national security by providing the capacity necessary to handle our defense needs, in peacetime and in wartime. Many of the Nation's transportation facilities and transportation providers have a role in mobilization and deployment of personnel and equipment in the event of an armed conflict or natural disaster. The Department of Transportation provides leadership for the civil transportation system in a national security emergency. DOT also will continue to work closely with the Department of Defense, other affected agencies, and the transportation industry, to identify short-term and long-term national defense and emergency transportation requirements, and to assure that the transportation system can fulfill its role in meeting those requirements.

National Defense

The U.S. Department of Defense is the single largest user of transportation services in the United States, and it depends largely on the civilian sector to meet its transportation requirements. The U.S. rail, highway, maritime, inland waterway, pipeline, and aviation systems are all components of national defense readiness and mobilization capacity, and these systems require continued investment.

Military Dependency on Civil Transportation in Peacetime



The ability of the U.S. civilian transportation system to support military sealift is a significant concern for national defense transportation. It has been a long-held view that the sealift capacity of the U.S. merchant marine would be inadequate to support defense needs in a national emergency. In October 1989, the President released the National Sealift Policy, which provides policy guidance for use of U.S.-owned and allied shipping to meet national defense requirements and the critical role of sealift capacity in our national defense strategy. Further analysis will be needed to determine future U.S. defense requirements, in light of the changed circumstances in Eastern Europe.

An ocean-going LASH (Lighter Aboard Ship) vessel carries fully loaded barges into New York harbor.

The decline of the U.S. merchant marine has impaired the Nation's ability to meet military sealift requirements. Reform of Federal maritime programs will assist in enhancing the U.S. merchant marine fleet's sealift capacity. Implementation of the national sealift policy may require additional initiatives to address shortfalls in U.S. sealift capability. U.S. shipbuilding and ship repair capacity will also have to become stronger and more competitive if a domestic shipyard mobilization base is to be available to support U.S. military requirements. The Coast Guard will continue to foster and promote use of consensus standards to increase efficiency in shipbuilding. In addition, to permit greater production line economies in ship construction, development of standardized hull designs and machinery arrangements broadly useful for both military and commercial vessels should be encouraged. Increased shipbuilding research and application of new technology would also help to make the U.S. shipbuilding industry more competitive.

The continued availability of U.S. domestic shipping capacity on inland, intracoastal, and intercoastal waterways and between U.S. continental and offshore points makes a special contribution to national security. The Jones Act, which reserves domestic waterborne trade for U.S.-owned, U.S.-built vessels crewed by U.S. citizens, is an element in keeping a domestic fleet that the Nation can turn to in a national emergency.

The safety and security of the Nation's port facilities are also critical to the national defense. The Department, through the Coast Guard, will continue to work closely with State and local authorities and the Department of Defense to ensure that U.S. ships can use our ports and waterways safely and expeditiously. Across all modes, the special needs of military transportation and the costs involved must be taken into account in national defense policies, and defense programs must provide adequate support to the private sector industries and carriers on which they rely.

It is Federal transportation policy to:

- **Carry out the national sealift and airlift policy, through close cooperation between the Departments of Defense and Transportation, within the framework of overall national defense and transportation policies**
- **Identify and update periodically an integrated multimodal strategic transportation network, including a full inventory of defense-essential facilities, vessels, and vehicles, and a comprehensive data base providing information on their condition and location in the system, using the resources of the Departments of Defense and Transportation**
- **Develop forecasts of future defense transportation requirements and establish priorities among them, through coordinated efforts of all affected Federal agencies**
- **Coordinate with State, local, and industry officials to ensure that the defense sector has necessary access to vital transportation facilities and equipment in military or other emergency situations**
- **Work with State and local agencies and volunteer organizations to identify and improve preparedness for meeting transportation requirements in the event of natural catastrophes or other national disasters.**

Drug Interdiction

As sinister as terrorism and just as damaging to the Nation's long-term security is the international traffic in illicit drugs. The U.S. continues to provide the major world market for the drug trade, and it is a top priority in the President's national drug policy to halt the import of illegal drugs into this country. Transportation is involved in moving drugs across our borders and within the United States. Transportation agencies, including the Federal Aviation Administration and the Coast Guard, are also an essential part of the national effort to detect and stop the flow of illicit drugs.

It is Federal transportation policy to:

- **Maintain Coast Guard surveillance on and over the waters to interdict illicit drugs coming from other countries to U.S. shores**
- **Assist in reducing illegal drug traffic moving on the Nation's transportation system, including the highway, aviation, maritime, and railroad systems.**

In 1989, the Coast Guard seized 151 vessels involved in drug trafficking and confiscated illegal drugs valued at more than $1.7 billion.

Terrorism and Transportation Security

Terrorists have targeted air carriers and cruise ships for bombings and hijackings. Terrorism in both domestic and international transportation represents an intolerable threat to the safety and security of travelers, the integrity of the transportation system, and the physical and economic security of the Nation. The Department of Transportation is actively involved in efforts to address the threat of criminal acts against all modes of transportation, and will continue to participate with other agencies and interests to protect the public from terrorism, sabotage, and piracy in the transportation system. The risks can be most effectively addressed through a multifaceted approach, involving public awareness, security training for operators and other personnel, use of advanced technology to detect and deter criminal action, increased industry accountability for security, and improved private-public and international cooperation in combatting the threat of terrorism.

It is Federal transportation policy to:

- **Assure effective screening of passengers and cargo at international airports to prevent terrorism in the skies**
- **Require installation of a new generation of highly sensitive explosives detection devices at key airports to detect and deter terrorist acts**
- **Work closely with port authorities and industry officials at U.S. ports, terminals, and points of entry, and with public and private sector enforcement officials, to analyze vulnerability and improve physical security against terrorism, hijacking, and other criminal acts**
- **Work to improve and gain wider implementation of international standards to enhance transportation security, including standards covering cruise ships and ports worldwide.**

Protect the Environment and the Quality of Life

Transportation opens opportunities to see and enjoy our surroundings, but at the same time the operation of transportation vehicles produces pollution, uses energy and other resources, and even poses the threat of accidents that can disrupt communities and endanger the environment. Americans are becoming more concerned about preventing catastrophic accidents such as oil spills on the seas, preserving the environment, reducing pollution, and protecting the access of all Americans to the benefits of convenient, comfortable, and attractive travel opportunities. Federal policies and programs affect all of these issues. Government actions can enhance lives by improving mobility. Federal policies should also work to enhance lives by contributing to a healthier and more attractive environment.

Protect the Quality of the Environment

Many aspects of transportation have adverse effects on the environment. The rights-of-way and facilities for transportation not only link communities and people, they also disrupt them. Transportation activities generate noise and congestion. The engines that power transportation vehicles produce emissions of carbon monoxide and a variety of other pollutants that contribute to smog, spoil our scenic vistas, and threaten health. Transportation cannot avoid affecting the environment, but a major goal of Federal transportation policy must be to minimize the negative side effects.

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The National Environmental Policy Act and other laws already require assessment of the effects of significant Federal transportation actions or Federal-aid projects on the environment, special attention to air pollution, and protection of wetlands and coastal zones. The Clean Air Act requires the Environmental Protection Agency to enforce vehicle and equipment maintenance standards to preserve emission control performance. Transportation regulations also cover motor vehicle noise.

The Department of Transportation must continue to coordinate with other agencies to ensure timely and effective environmental review of transportation projects built or funded as part of Federal programs, and to see that Federal environmental policies are reflected in transportation programs and decisions. For example, investment choices within the Federal-aid programs for highways and transit can affect achievement of air quality goals in metropolitan regions classified as "non-attainment areas" as a result of heavy automobile-related pollution. Many parties will have to work together to achieve more effective application of vehicle emissions control technology, reduce the release of toxic chemicals into the environment due to transportation activities, and address comprehensively issues related to global climate change and environmental degradation. The Department of Transportation, in coordination with other agencies, is developing guidelines for carrying out the "no net loss" goal with respect to the effects of transportation on the Nation's wetlands. Additional methods must be explored for

Every day in the United States more than 2 million trips to work and school are taken by bicycle.

environmentally sound disposal of the spoil material from harbor and channel dredging. In aviation, the Department will take positive steps to deal with aircraft noise, which can disrupt life in communities near major airports and result in the imposition of local airport use restrictions.

It is Federal transportation policy to:

- **Support fully the Administration's efforts to update the Clean Air Act, including Federal initiatives necessary to enforce the transportation-related aspects**
- **Participate in national and international review of and research on transportation-related environmental issues, such as global climate change**
- **Work with the aviation industry, State and local governments, and affected community groups to encourage development of local tools for ensuring compatible land use around airports, and to facilitate the orderly and expeditious phaseout of Stage 2 commercial aircraft without use of Federal funds**
- **Ensure that measures are taken to minimize the adverse environmental effects of transportation construction activities, for example, through the "no net loss" goal for wetlands**
- **Encourage the design and building of transportation facilities that fit harmoniously into communities and the natural environment, and preserve scenic and historic sites**
- **Develop improved procedures for ensuring expeditious environmental review and timely decisions on transportation projects at the Federal level, through coordination among all Federal agencies involved in environmental review and approvals, and encourage States to do the same**
- **Enforce international maritime treaties covering prevention of marine pollution.**

Respond to the Threat of Oil Spills

Recent oil spills on our inland waterways and on the seas surrounding the United States have increased concern about the environmental effects of shipping accidents in the transportation of petroleum and hazardous materials. Although human error in handling these materials and operating the oil tanker vessels is the most common cause of oil spills, there are many other factors that must be addressed. The *Exxon Valdez* accident in Alaska has particularly focused attention on the need for improvements in the Nation's ability to prevent spills, and respond to those that do occur.

Oil spills raise issues related to vessel designs to avoid ruptures and leaks; more effective containment of oil that is spilled; the range of available cleanup techniques—biological, chemical, and mechanical—and their relative effectiveness; more efficient oil-water skimming capability and techniques for recovery in adverse weather; and more effective and uniform procedures for managing oil spill response efforts.

Maintaining and managing vessels, equipment, and operations to prevent oil spills in the Nation's waters, and providing the cleanup capabilities when necessary, are private sector responsibilities. The Federal Government requires that shippers and transportation providers be prepared for dealing with spills. Federal programs and regulations must continue to incorporate the results of new research and new technology, better prevention measures, and effective guidance for preparedness and liability.

Coast Guard crew deploys special "booms" to contain an oil spill.

It is Federal transportation policy to:

- **Develop improved and more consistent contingency planning procedures to respond to oil spills, in connection with State, local, and regional officials**
- **Implement stronger measures to prevent oil spills and liability requirements that ensure that damages, including natural resource damages, are compensated**
- **Conduct a study of oil tank ship design, including an assessment of the benefits of double bottom and double hull design**
- **Ensure that adequate rules are in place to provide for the safe transport of crude oil and petroleum products, including considerations of vessel design, shipping lane requirements, and transloading operations, particularly in light of new technology and changing shipping patterns**
- **Explore the costs and benefits of stricter regulation of loading and unloading oil shipments at shoreline docks in comparison to alternatives such as additional private sector deepwater offshore loading facilities.**

Alaska Oil Pipeline near Fairbanks.

Conserve Energy Resources

Transportation accounts for more than a quarter of total national energy consumption and close to two-thirds of the petroleum used in the United States each year. In the past two decades, significant energy savings in transportation have resulted from greater attention to energy conservation and development of more fuel efficient vehicles. Reducing congestion through traffic management techniques and capacity enhancements that improve the use of transportation facilities will further advance the goal of saving energy. Increased use of higher occupancy vehicles on the streets and highways also can be particularly helpful in reducing transportation fuel consumption. In addition, some modes of transportation are more fuel efficient than others in meeting the same needs. For example, high-volume transit or intercity rail service can be far more fuel efficient than use of private motor vehicles in high-density corridors. To the extent that rail rapid transit and intercity trains are powered by non-petroleum-generated electricity, their increased use can contribute to reduced reliance on petroleum. Bicycling and walking to substitute for automobiles or provide access to transit and other mass transportation also save fuel.

In cooperation with the U.S. Department of Energy, the Department of Transportation is working to identify more fuel efficient transportation alternatives, and short- and long-term means to reduce the transportation sector's energy consumption. Key issues include improved vehicle fuel efficiency and increased use of alternative vehicle fuels, as well as alternative vehicle designs or transportation systems that would reduce petroleum use and overall energy consumption. Within DOT, the Urban Mass Transportation Administration is supporting purchase of buses that consume alternative fuels. The Department will support continued initiatives of that kind.

Increased use of high-occupancy vehicles on streets and highways can significantly reduce transportation fuel consumption.

It is Federal transportation policy to:

- **Ensure through close coordination between the U.S. Departments of Energy and Transportation that programs and actions are consistent**
- **Foster development and use of more fuel-efficient vehicles and transportation operations**
- **Promote increased use of bicycling, and encourage planners and engineers to accommodate bicycle and pedestrian needs in designing transportation facilities for urban and suburban areas.**

Extend Access and Mobility Improvements to All Americans

The benefits of transportation must be available to all Americans, including economically and socially disadvantaged, minority, young and old, and disabled citizens. Many individuals are not able to take advantage of America's opportunities because they do not have access to transportation services. More than 40 million Americans are disabled, and many have special transportation needs; many cannot drive, or live in areas where they are not now accommodated by public transportation. The transportation system can be a key to breaking their isolation. With the aging of the "baby boom" generation, the number of Americans over 65 years old is predicted to double by the middle of the 21st century. More than one-fifth of the population will be over 65 in the year 2030. Improvements in design of automobiles and other vehicles, clearer road signing, and specialized transporta-

The benefits of transportation must be available to all Americans, including economically and socially disadvantaged, minority, young and old, and disabled citizens.

tion services can all help better accommodate elderly and disabled citizens. Sidewalks and cuts in curbs at corners, automatic electric doors, ramps, and level access platforms at stations and other buildings permit improved access and mobility for disabled and elderly Americans. Buses accessible to the disabled can provide access to individuals who would otherwise not be able to travel. Over 35 percent of public transit buses are now equipped with lifts that can accommodate wheelchairs, and many buses and other public transportation vehicles and facilities have low or level entries to accommodate. Much more must be done. The Department of Transportation has the responsibility for enforcing access and mobility requirements in the transportation sector, and will move aggressively to carry out that responsibility.

It is Federal transportation policy to:

- **Promote greater access by working with transportation providers and representatives of disabled individuals and other transportation disadvantaged citizens to identify transportation facilities where access improvements are necessary, and assist in developing effective designs and implementation schedules for meeting those needs**
- **Assist public transportation agencies in preparing plans and standards for acquiring vehicles accessible to disabled passengers, to meet requirements in a timely and cost-effective manner**
- **Develop criteria and review procedures for enforcing conformance with Federal accessibility requirements.**

Improve the Quality of Travel

Mobility and travel have always contributed to Americans' enjoyment of their lives and leisure. Tourism is one of the Nation's major industries. The leisure aspects of travel place particular importance on the attractiveness, comfort, and convenience of transportation. Efforts to reduce vehicle pollution, noise, destruction of scenic vistas, and traffic congestion in prime tourist areas contribute to safeguarding not only the environment but also the quality of travelers' experiences.

To make travel more enjoyable for U.S. citizens and foreign visitors requires more than just the basic infrastructure. Travelers generally expect services to be convenient, comfortable, and sufficiently frequent to fit within a busy itinerary, for a wide range of budgets. Ready information on schedules and transportation options, including clear and consistent signing and directions, is critical at stations and terminals, on highways and other routes. Safe, well-maintained routes, clean and attractive stations and facilities, pedestrian walkways, and trails for bicycles and other recreational vehicles are all important to tourists and other leisure travelers. Both the public and private sectors must contribute to efforts to improve the quality and availability of transportation and related service facilities for the traveling public.

It is Federal transportation policy to:

- **Review Federal programs and standards affecting transportation service to leisure travelers, to ensure that the Federal Government is not an obstacle to attractive, high-quality service**
- **Promote standardized signs and increased information for travelers, particularly at airports and passenger terminals and along scenic highways and other passenger routes**
- **Incorporate in Federal-aid programs for transportation provisions for adequate service facilities for travelers.**

Advance U.S. Transportation Technology and Expertise

Innovation and technological advances within the transportation field will be vital to ensure that the system can meet the Nation's transportation requirements for the 21st century. We need to focus on innovation and technology to fulfill national transportation goals of safety and efficiency and meet the transportation needs of the future. Many of the resources, as well as the imagination and creativity necessary to support transportation advances, will come from the private sector, along with the opportunities for applying new ideas and knowledge. Colleges and universities, non-profit research groups, and State and local governments will also contribute to transportation research and innovation. Institutions in a position to apply research and technological advances will have to be prepared for and receptive to change.

Technology alone cannot solve today's transportation problems, but in combination with sound management of capital and human resources, technological advances can offer significant assistance in meeting transportation needs.

Transportation officials and professionals at all levels will need the education and training both to develop and carry out new technologies and techniques. The Federal Government can increase awareness of the needs in all of these areas, and can serve as a leader and a catalyst for research, innovation, and expertise. From the increased interest in advances in the transportation field and corresponding creative and technological resources drawn to transportation, the Nation will long reap the benefits of rising productivity and competitiveness and an enhanced quality of life.

Foster Innovation Through Transportation Research and Development

The United States has a long history of scientific and technological breakthroughs that have permitted advances in industry and society worldwide. Transportation has been one of the major industries contributing to and participating in those advances. Computer technology, many safety initiatives, motor vehicle design, alternative fuels, intelligent vehicles/highway systems, and magnetic levitation for trains all received substantial initial impetus from research and development work in the United States. Innovation and new technologies are at the center of public and private efforts to prepare for meeting future transportation demands.

UNPHOTO

FAA's air traffic control system is continuously being upgraded using the products of research and development.

Current research interests in transportation range across all modes and issues. They include dramatic new developments in vehicle technologies, such as alternative power sources for automobiles, the "ship of the future," new types of space launch vehicles, and hypersonic aircraft. They also extend to applications of microprocessors, fiber optics and other telecommunications applications to permit information exchange, electronic vehicle control, and ground-based or satellite positioning. Additional work is going on in the areas of automation and robotics in transportation, both in routine functions, such as vehicle loading and unloading, maintenance and repair, and in potentially hazardous activities, such as space launches.

As important as the far-reaching and exotic possibilities in transportation research are the opportunities for short-term improvements in the performance and safety of existing technologies. Research in this area can contribute to more efficient, lower emission automobile engines; better pavement materials, signs, and signals on roads and highways; improved techniques for scheduling, monitoring, and billing for freight movements; and safer, more crashworthy vehicles and transportation vehicles. Incremental improvements in existing transportation systems can have major long-term payoffs.

The Department is proposing a major new initiative in transportation research and technology, to promote research activity in each mode and across modes.

To address transportation needs, advances in research and innovation must not be limited to "hardware" and systems. We must also pursue increased measurement and understanding of human performance factors, such as the interaction between people and vehicles or equipment, and the potential for training and testing to avoid operator error and reduce human factors accidents. The scope of the human performance problem has only recently become more clearly understood in both industry and government. Human factors issues are most visible in aviation today, but their significance in all areas of transportation safety will continue to grow. While research efforts concerned with human performance issues have been underway for many years, these efforts have gone on in many different organizations under

separate programs, and they have not been coordinated as a focused overall program that addresses the comprehensive nature of human factors in all types of transportation operations.

Research is also needed on innovative management and financing options in transportation, such as the potential for effective use of pricing mechanisms to manage demand, and the concept of high-occupancy vehicle alternatives and toll combinations in the highway system. Improved techniques for forecasting market demand and travelers' preferences will be critical to public and private sector investment planning and financing decisions. Each of these areas offers significant benefits for the future. We must build on past efforts, and pursue the products of U.S. research and innovations to the point that they can be put to use in addressing national needs. Greater effort to share the results of research and the knowledge of innovations will expand awareness of new technologies and other advances and boost their development and use.

The Nation's private companies and universities and research institutions remain the crucible for transportation research and development. We need a more active partnership for innovation, and commitment by all parts of the transportation industry and the academic community, alongside the Federal, State, and local governments.

The Federal Government can help to focus the attention and energy of the public and private sectors on the importance of advances in transportation for the Nation's future. By encouraging transportation research, offering seed money, and preserving tax incentives for research, the Federal Government can create the climate for research and innovation. The Department's sponsorship and funding can also help attract broader involvement in the effort.

Just as innovative approaches are necessary in transportation systems and technology, Department programs must be designed to foster increased public-private partnerships and strengthen the tools and incentives for innovative research funding by the private sector, State and local governments, and non-profit organizations.

Particularly where the benefits of investment in research and development would accrue beyond an individual firm, there is little incentive for a single firm to undertake a research project on its own. Frequently, U.S. firms are competing with foreign firms or consortia whose research activities are at least in part subsidized by their governments. To assure the viability and technological competitiveness of the U.S. transportation industry, its suppliers and customers, some additional steps may be required to foster research efforts in this country. Cooperative agreements for research can help all the members of the transportation community to contribute to funding research and increase the payback from transportation research activity. Most cooperative ventures in the private sector to develop new technology are not at risk of violating Federal antitrust laws. If, however, it becomes clear that greater security will be required for U.S. firms to enter such productive joint research ventures, the Federal Government will examine legislative and administrative remedies for fostering efforts that can reinforce U.S. competitiveness in the world market, without harming competition and the interests of consumers.

It is Federal transportation policy to:

- **Increase the Federal transportation budget for research and technology projects, in coordination with the efforts of private industry, the academic community, and State, local governments**
- **Conduct a comprehensive program of research on human factors in transportation, including the causes of transportation accidents and the effects of operator impairment, perceptual errors, and fatigue, as well as design and operating changes that can eliminate or reduce those effects**
- **Continue research on improvements in design and operation of existing vehicles and transportation systems**
- **Provide seed money for research on new transportation systems and technologies, and assist in assessing their feasibility**
- **Ensure that regulatory and institutional barriers do not impede implementation of viable new technologies while still assuring that procedures are in place to assure their safety**
- **Foster a program of national research in transportation at the country's universities and research institutions**
- **Maintain a knowledge base and active cooperative exchanges covering international research and innovation in transportation**
- **Make Federal transportation data, research findings, and information on technology and innovation in transportation available to researchers, industry, and all levels of government**
- **Promote adoption of new technologies and reassert U.S. international technical leadership in transportation by fostering increased awareness of and interest in research an development activities.**

Cadets at the U.S. Coast Guard Academy in New London, Connecticut, take classroom and laboratory instruction in electronics, electrical engineering, and other subjects to prepare for their careers in transportation.

A New Generation of Transportation for High-Density Intercity Travel

No single transportation mode will be able to meet the full range of transportation requirements; a spectrum of options with varied capabilities will have to be fostered to accommodate tomorrow's needs. For travelers making trips of between 100 and 500 miles, the journey may be too long to drive comfortably in a car but not great enough to be accommodated efficiently in today's large commercial aircraft and congested airports. Particularly in the face of the expense and difficulty of expanding or building airports and highways in crowded corridors, other forms of transportation can offer relief for congestion and more efficient service options. High-speed rail and magnetically levitated trains are already operating in Europe and Japan. Other options, including new aircraft such as tiltrotor vehicles, have also been proposed to fill that market niche. Those technologies have not yet been put into active commercial application in the United States. More analysis will be needed to assess their feasibility and relative costs and benefits of the various options, and to identify the most promising technologies and applications.

The Federal Government will promote research to support those next steps by providing seed money for the initial examinations of the feasibility of major new technological proposals, and evaluating their cost-effectiveness in comparison to other options. While private investment will be the central feature in putting any of these systems into place, the Federal Government can serve as the catalyst, and ensure that regulatory and institutional barriers do not impede implementation of viable systems. With the active support of private sector, State, and local interests, the Nation will be able to take advantage of promising new technologies to help meet our intercity passenger transportation needs.

Magnetic levitation technology was first developed in the United States. Maglev trains are now being operated on a test track in West Germany.

Transrapid International

Break-away light poles are tested as part of research on ways to reduce roadside hazards.

Safer, Cleaner, More Efficient Motor Vehicle Systems

To meet air-quality goals and other environmental objectives, to alleviate congestion, to save lives and resources, and permit more effective use of the Nation's primary transportation system, the motor vehicle operations of the future will represent a dramatic evolution from the cars and trucks on the road today. One of the greatest challenges confronting the Nation for the 21st century is to develop motor vehicle systems that will be safer, more efficient, more environmentally benign, and lower in energy consumption, without destroying our basic mobility, industrial competitiveness, or standard of living. Every step toward this target will mark an improvement in the transportation system and valuable progress toward protecting the quality of life and the environment for the Nation and the world. As ambitious as this goal may be, our business leaders, our scientists and engineers, and the American people together can attain it. A goal of this magnitude, however, can only be met through the efforts of all levels of government, business and industry, individual citizens and households. Substantial input in time, energy, and resources will have to come from the motor vehicle manufacturers, as well as other suppliers and manufacturers providing goods and services to support motor vehicle operations.

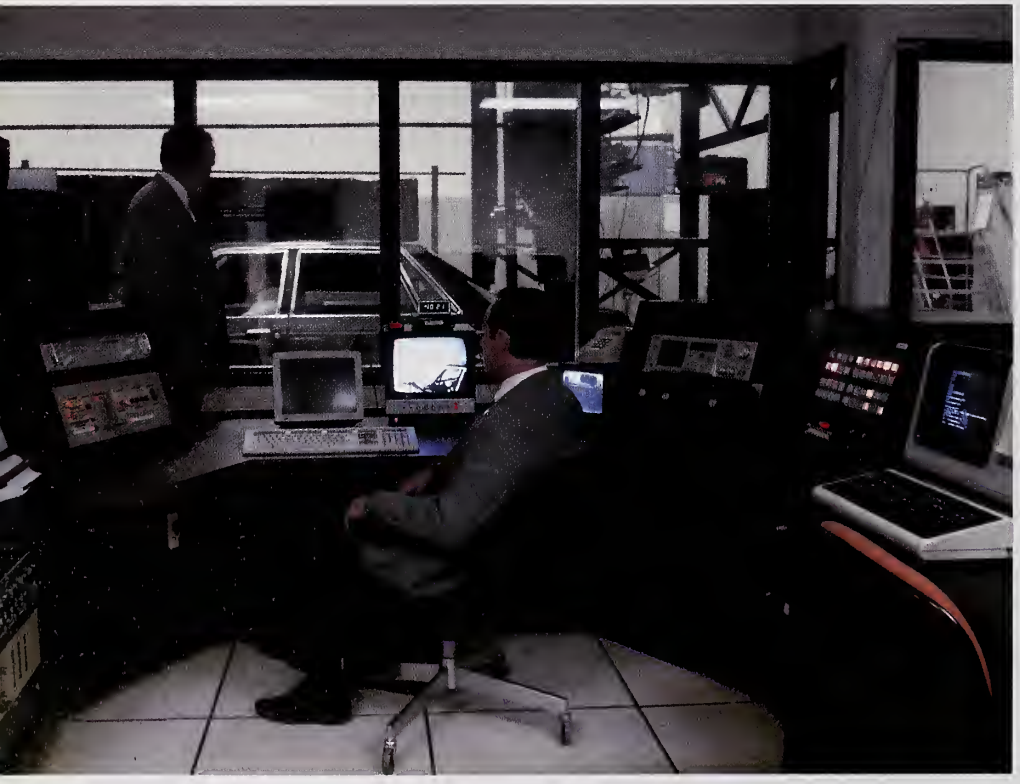
The President is calling for a nationwide initiative to increase use of cleaner fuels in motor vehicles. Manufacturers and energy companies are responding with new efforts to modify vehicles, engines, and fuels. To meet fuel efficiency and air-quality goals, many States and metropolitan areas are already moving to mandate vehicles that will use cleaner fuels and reduce emissions levels.

Sound and consistent Federal policies are critical. Many public and private sector initiatives are already underway, involving vehicle emissions, fuel economy, crashworthiness, passenger restraints and other safety devices, cleaner fuels, alternative power sources, materials engineering, and human factors research. The Department will bring together all the Federal agencies that are involved in research, regulation, or oversight of activities related to motor vehicle and highway operations and safety, including the U.S. Department of Energy and the Environmental Protection Agency. DOT will work with other agencies in reviewing and cataloguing ongoing Federal programs and initiatives inside and outside the Department, and will support a coordinated program to oversee the Federal efforts. The Department itself will pursue a concerted program of research covering motor vehicle safety, operations, and integration of vehicles with the street and highway systems they use, and will continue to participate actively in efforts to improve motor vehicle fuel efficiency and emissions control.

Intelligent Vehicle/Highway Systems

An enormous range of technology exists in the area of intelligent vehicles and intelligent highways (IVHS) that can contribute substantially to reducing vehicle delay, increasing highway capacity, and improving highway safety. Further advances offer the prospect of even greater benefits than are now possible. Most notably, IVHS can alleviate congestion on streets and highways using automated traffic control systems (signals, ramp meters, and reversible flow lanes) responsive to real-time conditions; enhance information available to drivers on traffic incidents and delays plus alternative route choices, through advanced driver information systems within the vehicles and improved traffic information systems along the roadways; improve safety of highway operations through safety advisory, warning, and avoidance systems installed in vehicles; increase the efficiency of trucks and other highway vehicle fleets through vehicle identification, communications, and safety advisory systems; and finally, for the longer term, facilitate safe and reliable vehicle operations at higher speeds than are now practical, through fully automated vehicle control or partially automated backup systems for drivers. Extensive testing is needed to determine which types and applications of IVHS technologies can be most cost-effective. Those IVHS options that have the greatest likelihood of providing near-term public and private benefits should be pursued, at the same time that research on longer term IVHS options also must proceed. The Department, working with industry, will develop an advanced driver simulator to perform necessary IVHS evaluations. This will be an important step in allowing human factor research capability to catch up with the development of information processing and advanced vehicle-related technology.

In Europe and Japan, government agencies and private companies are working together to develop IVHS technologies. To match those initiatives and realize the safety and efficiency benefits of IVHS in the United States will take substantial investment in both vehicles and the roadways they use, as well as major operational and institutional change.



Staff in this FHWA laboratory measure and analyze human reactions to simulated road and traffic situations.

"Guidestar" IVHS Program
Minnesota

Minnesota has developed a fast-track, ambitious program of research, development, and deployment of IVHS technology called "GuideStar." Under this program, Minnesota plans to have 300 miles of freeways and major arterials connected to and monitored by a regionwide traffic communications network by 1995. This network will provide passenger vehicles and trucks with a variety of services, including current information on congestion levels and the shortest routes to destinations, online control of freeway ramps and intersections based on traffic conditions, and faster response capability to accidents and other incidents on the roads. In 1989, the Minnesota Department of Transportation contracted with the University of Minnesota and the Federal Highway Administration to test the centerpiece of "GuideStar," a unique machine-vision vehicle detection technology patented by the University of Minnesota, which represents a potential breakthrough in IVHS technology.

Several on-board "electric map" systems are being developed by private industry to help motorists find their way through unfamiliar territory. These systems can be used to dispatch delivery, emergency, and other vehicles. When integrated with other IVHS technology, these on-board systems will provide drivers with up-to-date traffic information and suggest alternate routes so the motorists can avoid congestion.

Improve Transportation Education

The human element in transportation is as important as the basic infrastructure, the vehicles, or any other physical resource in making that system work. Individuals are responsible for planning, designing, and putting in place the transportation systems we need. These are all functions that require special knowledge and expertise.

The first objective in laying the groundwork for the transportation expertise for the future is to ensure that members of the public, and young people in particular, are aware of the range and the promise of transportation careers, and that educational opportunities are available to prepare them for those careers. In the public sector, for every line of private business involving transportation, there are professionals who study those activities, develop the laws and regulations and other policies to guide transportation decisions, ensure transportation safety, and see that civilian and government transportation needs and interests are addressed. Research and academic institutions offer corresponding opportunities for working in transportation.

The President's thrust to improve U.S. education has special meaning for transportation. The "education gap" afflicting all sectors of American life, and specifically the shortage of trained professionals to handle high-technology jobs, represents a serious obstacle to the current strength and future outlook for the U.S. transportation system.

None of the challenges in transportation can be met unless individuals working in the field have the quality education and background to take on the professional responsibilities. People must first be aware of the opportunities and then have the necessary preparation to benefit from them. The Department will work closely with educational institutions, including minority institutions, to ensure that students are aware of the great potential offered by transportation as a career. Schools, colleges, and universities must also provide education that builds on the latest data, systems, and technologies in transportation. In preparing the next generation of transportation professionals, particular attention must be given to attracting and retaining minorities and women and socially and economically disadvantaged individuals, who have not been well-represented in higher level educational programs and among transportation professionals in the past.

It is Federal transportation policy to:

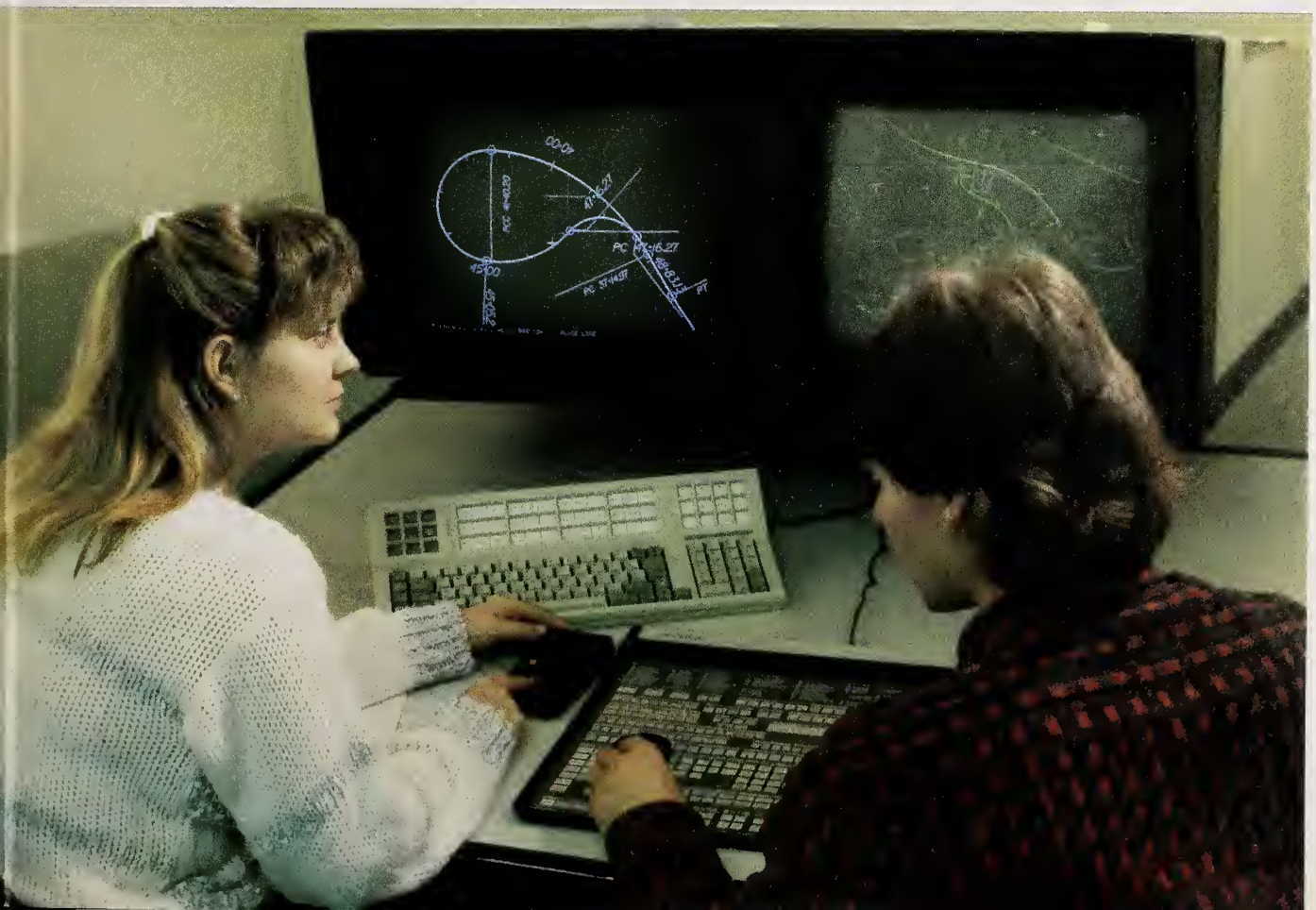
- **Foster greater awareness of transportation as a potential career**
- **Encourage improved government and academic programs in transportation education**
- **Make maximum use of the potential of the Department's service academies and training institutions**
- **Promote cooperative programs with universities in combination with public agencies and the private sector, to carry out ongoing exchange of knowledge and innovative ideas among professionals in the transportation field**
- **Work with universities and other educational institutions, industry and community groups to help them increase the numbers of minorities and women pursuing transportation education and careers.**

Improve Transportation Data and Planning

Wise transportation investment and management require that the work force have accurate, timely information supporting forward-looking management and planning. The challenges facing transportation planners and managers have grown as the traditional focus on building new transportation facilities has broadened to include environmental and social concerns, increased competition for public and private resources, and the need to adapt existing facilities and services to changing demographic and economic conditions and emerging technologies. These challenges require continuing improvements in analytical techniques and supporting data to permit planners and other professionals to anticipate transportation needs and design long-term investments and short-term operational enhancements to meet those needs.

Transportation has always been a highly data-dependent industry. Greater reliance on the marketplace and on service innovations to meet the demands of the marketplace has increased the need to understand the complexities and rapid changes in passenger and freight transportation. Analytical techniques and supporting data must account for the mobility and logistics requirements of households, businesses, and public institutions, as well as the extent, capacity, condition, and performance of transportation facilities and services. Public decisionmakers and the private investment community also need to understand the financial aspects of transportation and related industries, as well as the role of transportation in the national and global economies.

Geographic information systems, computer-aided design, and related technology greatly expand the range of conditions and options that can be analyzed in transportation planning and engineering.



Advances in operations research, microcomputers, and other tools have increased the transportation community's analytical sophistication and ability to use constantly growing amounts of data. Remote sensing, electronic data interchange, and other information systems technology have also increased the possibilities for collecting more and better data without additional burdens on the public.

The Department of Transportation will ensure an effective balance between reporting burden and availability of the information necessary to support public decisionmaking and the private marketplace. Many needs for transportation data can be filled by modest additions to existing data collection programs, statistical activities that link existing data sources, and unobtrusive means for capturing information from computerized dispatching, electronic data interchange, and management information systems. Innovative mechanisms for Federal cooperation among agencies and with private industry and other levels of government have been developed to improve data processing and dissemination as well.

Greater cooperation and improvements in methods of data collection and use are increasingly important because budget constraints, increased costs of traditional data collection methods, paperwork reductions, and reduced economic regulation of transportation have decreased the quantity and quality of available transportation-related data. The private sector does not provide adequate substitutes for much of the basic data required for decisionmaking. State and local agencies also do not provide adequate data coverage or comparability to replace Federal data resources. The resulting gaps in transportation data include statistics on domestic and international flows of freight and passenger traffic by all modes, the extent and performance of intermodal connections, the financial and operating characteristics of smaller carriers, and the costs of both for-hire and private transportation incurred by each sector of the economy. While periodic evaluations of the extent, condition, and performance of transportation facilities, equipment, and services are reported for some modes, they are very limited for others. Multimodal assessments of the entire transportation system to support strategic planning have not been regularly produced in a decade.

DOT has the responsibility to assure that adequate information is available to support its own activities, and to help meet data needs of the entire transportation community. Many other Federal agencies besides the Department collect data covering transportation and activity related to transportation, including the Bureau of the Census, the Interstate Commerce Commission, the Customs Service, and the U.S. Army Corps of Engineers. DOT is in the best position to provide leadership in identifying transportation data needs; assuring that essential data needs are met effectively and efficiently; developing improved analytical techniques for applying data and carrying out informed transportation planning and decisionmaking; and encouraging the dissemination of data, analytical methods, and information systems technology among State and local governments, private industry, and other research and educational institutions.

It is Federal transportation policy to:

- **Improve Federal efforts to gather and disseminate basic transportation-related data needed to permit timely, informed Federal, State, local, and regional transportation planning and decisionmaking**
- **Identify national needs for information on transportation, including U.S. domestic and international flows of commodities and passengers, and the extent, condition, use, and performance of each transportation mode, and assure that those needs are met**
- **Coordinate transportation-related data collection activities and information systems among Federal agencies and with industry, State and local governments, and develop more consistent standards for data collection and tabulation across all modes and users of transportation**
- **Collect and disseminate information on the quality of transportation service, such as airline on-time performance, to increase awareness of service conditions and needs for improvements**
- **Evaluate and report regularly on the state of the Nation's transportation systems, including estimates of current use and future demands for all modes and an assessment of the condition and performance of each mode**
- **Enhance the long-range multimodal strategic planning function in the Department of Transportation to provide a framework for legislative, regulatory, budget, and program proposals.**

Data from the Decennial Census on local, regional, statewide, and nationwide commuting patterns are essential to urban transportation planners. For example, the increasing number of workers commuting from distant residential developments to downtown and suburban employment centers has stimulated a renaissance for commuter railroads, such as the Maryland Rail Commuter Service.

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Chapter IV

Strategies for Action

Transportation policy is not made in a single document or a single day. It evolves through a series of documents and actions, through decisions and failure to make decisions, over days and months and years. And it evolves from the participation of many different parties—the Federal Government, State and local government bodies, public interest groups and individuals, private providers of transportation service, and transportation users.

Within the Executive Branch, the Secretary of Transportation is the President's primary advisor on transportation policy issues. However, policy is affected not just by Department of Transportation actions but also by regulatory commissions and the departments and agencies responsible for energy, environment, taxation, antitrust and corporate law, labor, health and safety, agriculture, land use and economic development, foreign trade and foreign relations, and defense.

In his State of the Union Address on January 31, 1990, President Bush noted that carrying out the National Transportation Policy is one of the Administration's goals in working with the Congress.

The Congress plays the key role in authorizing structural changes and providing funds for the policies and programs administered by the Department. State and local governments and the private sector are crucial to the overall execution of sound transportation policy. The entire process is incremental and ongoing.

The Nation has short-term and long-term milestones and objectives for our transportation system, and the agenda for achieving them must be phased over the short and long terms as well. With this document, the Department and the Administration take an important step in providing guidance and leadership on the direction of transportation policy for the future.

Subsequent steps will be taken at the Federal level through new laws and regulatory policies that reshape transportation programs and the manner in which they are operated, budget and investment decisions that will determine the extent of the Federal commitment, research and development initiatives that may provide innovative solutions to today's transportation problems, and the leadership of the Department in articulating the importance of efficient transportation to the Nation's economy and security.

The Department will carry the policy agenda to the transportation community—transportation providers, State and local government agencies, the Congress, interest groups and industries that use transportation, and the general public. Within its administrative and operating authority, DOT will apply the policy in decisions and actions.

The Short-Term Action Agenda

The policies contained in this document will form the foundation of the Department's 1990-1992 legislative agenda, regulatory actions affecting transportation industry operations, and program changes that alter the way the Department does business. During the coming months and years, actions will be taken on each of the policy initiatives discussed in chapter 3.

As the national transportation policy was developed, issues, problems, and solutions were considered from a market-based, multimodal perspective. Many of the proposed actions reflect this orientation. Clearly, most of the proposed actions have implications for transportation systems and operations between and across the modes. However, since consideration of the Department's legislative agenda will take place within the present committee structure of the Congress, some of the key proposed legislative actions are presented by mode.

A Strategic Action Plan for 1990-1992

- **Authorizations for redirected Federal aviation, highway, highway safety, and urban mass transportation programs**
- **Enactment of other legislation that will enhance modal competition and national security**
- **Repeal of Federal regulations and laws that impede the provision of efficient transportation service**
- **Program initiatives to carry out new policy directions.**

The Short-Term Legislative Agenda

Reauthorization legislation is needed to ensure that the Federal Government can carry out its obligations to maintain safe and adequate airport and airspace programs, to sustain a safe and adequate national network of highways, and to support vital urban mass transportation systems. These programs must be reviewed and realigned to better address the Nation's present and future transportation needs. Other legislation will be proposed by the Department in the next few years to address key concerns involving railroads, merchant marine, Coast Guard, and safety functions across all modes.

THE IMAGE BANK

San Francisco International Airport, California.

Aviation Legislation

Consistent with the national transportation policy, legislation proposed by the Department of Transportation will:

Recover a higher portion of program costs from user fees and increase the size of Federal aviation programs.

Provide for implementing the National Airspace System Plan and installing a new generation of air traffic control.

Provide for capacity at saturated airports through such measures as allowing passenger facility charges.

Support research, development, and evaluation of new aviation technologies.

Highway and Highway Safety Legislation

To implement the national transportation policy for highways and highway traffic safety, the Administration will develop legislation consistent with the following principles:

Make use of the Highway Trust Fund to address critical highway infrastructure requirements.

Focus the Federal-aid highway program on systems and projects of national significance.

Provide Federal funding incentives for preservation of highways.

Require sound infrastructure management programs as a condition for Federal aid.

Increase the State and local share of Federal-aid projects.

Allow greater flexibility in the use of Federal trust funds for highway and transit purposes.

Allow greater use of toll financing on Federal-aid highways.

Devote additional resources to research and development, including programs to improve highway safety through human factors research, and seed money for private sector or State and local research on new transportation technologies, such as intelligent vehicle/highway systems.

Improve highway and motor carrier safety by targeting Federal financial support and technical assistance to promote enactment and more effective enforcement of laws governing speed limits, driving under the influence of alcohol or drugs, truck driver qualifications and vehicle maintenance, and use of safety belts, child safety seats, and motorcycle helmets; and increase public awareness in those areas.

JEFF MORA

Urban Mass Transportation Legislation

To implement the national transportation policy, for mass transportation, the Administration will develop legislation consistent with the following principles:

Restructure the Federal mass transportation assistance programs to improve effectiveness and reduce reliance on the General Fund.

Eliminate barriers to private sector participation in financing and operating mass transportation systems.

Allow greater flexibility in the use of Federal trust funds for highway and transit purposes.

Increase the State and local share of federally assisted mass transportation projects.

Reduce Federal operating assistance for urban transit.

Light rail transit in Cleveland, Ohio.

Coast Guard Legislation

Consistent with the national transportation policy, legislation for programs administered by the Coast Guard will:

Finance a portion of its search and rescue services and commercial vessel safety inspection program through user fees.

Define Federal oil spill response authority.

Establish stronger protection measures to prevent serious oil spills, and liability requirements that ensure that damages, including natural resources damages, are compensated.

Enhance vessel traffic safety and facilitate the efficient flow of commerce through improved aids and vessel traffic systems.

Railroad Legislation

Consistent with the national transportation policy, legislation supported by the Department for railroads will:

Repeal the Federal Employers' Liability Act and bring Federal treatment of railroads into conformity with treatment of other modes.

Institute user fees to recover a portion of Federal railroad safety inspection costs.

Maritime Legislation

Consistent with the national transportation policy, DOT will fully examine maritime issues and programs, including the Operating Differential Subsidy program, and develop legislative proposals to, among other things:

Provide commercial operators greater flexibility to compete in the international trades.

Recognize the need of U.S.-flag operators to be competitive in the acquisition of vessels.

Hazardous Materials Transportation Legislation

To ensure safe transportation of hazardous materials in the Nation, the Department has proposed legislation that will:

Establish areas of hazardous materials regulation that are exclusively Federal, such as classification standards and hazard warning systems.

Extend Federal hazardous materials regulations to all intrastate transportation, including specific standards for highway routing, with new provisions for resolving disputes.

Establish a safety permit program for motor carriers transporting extremely toxic, explosive, or radioactive material.

The Short-Term Regulatory Agenda

Despite the recent initiatives of the Federal Government to remove unnecessary transportation regulations, many market barriers still exist. In other cases, the provision of efficient transportation service is impeded by conflicting State and local regulations. In the next year, the Department will plan and begin pursuing the following important regulatory policies, many of which will require new legislative authority.

To enhance transportation industry competitiveness and improve the efficiency of transportation operations, the Federal Government will propose to:

Eliminate the Interstate Commerce Commission's remaining economic regulation of trucking, interstate buses and rail passenger service, ferries, pipelines (other than water, oil, or gas), household goods freight forwarders, and freight brokers.

Require uniform State procedures for truck registration and tax reporting.

Vigorously oppose efforts to re-regulate railroads and airlines.

To improve metropolitan area program delivery and decisionmaking and to improve management of urban transportation, the Department will propose to:

Strengthen the planning, programming, and project prioritization role of Metropolitan Planning Organizations.

Require system management actions as a condition for highway and transit program project approvals.

To protect the environment from adverse side effects associated with transportation, the Department will:

Implement a "no net loss" goal for wetlands affected by Federal transportation programs.

Implement stronger protection and liability measures involving oil spills.

Support the actions necessary to implement the transportation-related provisions of the Clean Air Act.

To better assist transportation providers in extending the access and mobility of Americans, the Department will propose to:

Develop criteria and review procedures for enforcing conformance with Federal accessibility requirements for air carriers and federally assisted mass transportation operators.

PHOTO

Massive cranes load and unload containerships at an intermodal port facility.

The Short-Term Program Agenda

Much can be done to achieve national transportation policy objectives by redirecting the resources and efforts of the Department of Transportation. In the next year, the Department will plan and begin efforts—through budget requests, research and development, and other means—in the following important areas.

To reduce congestion through improved use of existing resources, the Department will:

- Encourage pricing and other transportation management techniques for all modes where there is system congestion.
- Provide technical assistance to State and local governments to develop and implement improved transportation system management programs.
- Work with the aviation industry, State and local governments, and affected community groups to encourage development of local tools for ensuring compatible land use around airports and to facilitate the orderly and expeditious phaseout of Stage 2 commercial aircraft without use of Federal funds.
- Prevent noise-related restrictions on aviation that are unreasonable, arbitrary, discriminatory, or are an undue burden on interstate commerce, and work with local communities and airport users to deter local actions that unreasonably interfere with system efficiency or increase system costs.

To ensure that all Americans have access to necessary transportation service, the Department will:

- Work with transportation providers to increase access and mobility to the disabled.
- Improve service delivery by coordinating its public transportation programs with those administered by the Departments of Health and Human Services, Agriculture, and Housing and Urban Development.

To ensure competitiveness and efficiency in the transportation industry, and to improve access to world markets for U.S. carriers, shippers, and citizens, the Department will:

- Increase efforts to harmonize international standards for transportation equipment and international trade and transportation procedures.
- Minimize the potential for federally subsidized transportation services to offer unfair competition to private operators.
- Expand U.S. communities' access to international air service.
- Participate in international negotiations to increase access for U.S. carriers and pursue the removal of foreign barriers that restrict access to and efficient operations in international transportation markets.

To ensure that transportation requirements for national security are met, the Department will:

Review transportation conditions and performance within present programs to determine whether transportation capacity is adequate for national defense needs.

Work with the Department of Defense to implement the national sealift and airlift policy.

To improve safety and reduce transportation accidents, the Department will:

Undertake a comprehensive research program on human factors in transportation.

Launch a coordinated campaign against highway traffic deaths, increasing public awareness and compliance with traffic safety laws and encouraging States to enact and more aggressively enforce effective traffic safety laws.

Sunshine Skyway Bridge, Interstate 275, St. Petersburg, Florida

To reduce the import of illegal drugs into the country, the Department will:

Maintain Coast Guard surveillance on and over the waters and continue Federal Aviation Administration support to law enforcement agencies to interdict illicit drugs.

Work closely with the Office of National Drug Control Policy and other agencies to reduce illegal drug traffic moving on the Nation's transportation system.

To promote new transportation research and development that will advance U.S. technology and support an improved transportation system, the Department will:

Support private sector evaluations of the market feasibility of major new technologies proposed for intercity passenger transportation and support further development and demonstration of promising options.

Work with private industry and State and local governments to develop intelligent vehicle/highway systems.

Cooperate with other Federal agencies and private industry to develop more energy-efficient and lower emission motor vehicles.

Restructure the Department's program of technical assistance and technology sharing to more effectively support State and local decisionmaking on present and advanced systems, particularly with information on innovative funding approaches.

To promote an effective transportation work force, the Department will:

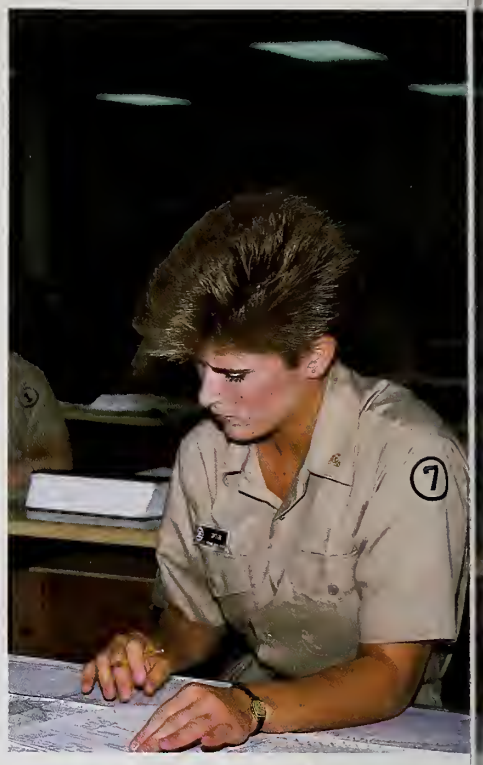
Work with industry to identify future work force needs and develop recruitment and educational programs to meet those needs.

Improve personnel support systems, including recruitment and training for high-skill Federal transportation positions such as air traffic controllers, engineers, and transportation safety inspectors.

To improve the coverage, quality, and availability of data to support informed transportation decisionmaking, the Department will:

Develop a comprehensive assessment of data needs and priorities of the Department and the transportation community.

Develop more effective and permanent institutional mechanisms within the Department to ensure that transportation-related data collected by different agencies can be effectively linked, to collect data on multimodal passenger and freight transportation flows, and to integrate and disseminate transportation-related data collected by DOT and other public agencies.



Student at the Merchant Marine Academy, Kings Point, New York.

Setting an Agenda for the Long Term

Beyond the short-term plans for pursuing or initiating many of the actions proposed by this statement of policy, economic, social, and technological changes will continue to occur and new issues and questions will arise daily. The Department must review the agenda regularly to ensure that programs and actions fit within a sound overall national policy framework, and it must remain sensitive to the conditions and needs in the transportation system as a whole. Public officials must also be aware of the sequencing of program and policy initiatives to ensure that the timing of current and future efforts does not introduce distortions.

Strategic Planning

As part of the continuing process, the Department will put in place formal and lasting mechanisms to ensure that the strategic planning perspective is integrated into the legislative, budgetary, and regulatory planning and decisionmaking within each modal administration at DOT, and also across the individual modes, with oversight and guidance from the Office of the Secretary. This perspective will permit building clearer goals and guidelines into everyday operations, which will, in turn, sustain the interchange launched in this policy development process among the parts of the Department, within the Federal Government, and between the Department and State and local governments and the private sector. DOT will work to coordinate the efforts of the many agencies and individuals who shape and are affected by national transportation policy.

Efforts are already underway within the Department to build strategic planning into our everyday operations. In 1988, the Federal Aviation Administration launched a strategic planning initiative within the agency and the aviation community to set a critical strategic direction for the FAA and to identify future issues and opportunities. When completed, this effort will determine FAA mission emphasis and set performance objectives and broad strategies for the next two decades. It will also provide plans of action and assign responsibilities for beginning to implement the chosen strategies.

Building on the national transportation policy process, the Department will continue to conduct long-range strategic planning, bringing together decisionmakers covering all modes of transportation. The Department must work with State, local, and other public and private interests to assess future needs and respond to emerging issues beyond the perspective of a single mode, sector, or level of government.

The Department's strategic focus for the future will be to ensure that the transportation system can perform its basic function efficiently and safely through efforts to:

- Remain flexible enough to adapt to changing circumstances
- Foster a balanced and integrated transportation network
- Provide the means and the incentives for funds and other resources to be targeted to projects and programs that offer the greatest benefits in the Nation's transportation system.

Better data and other information on transportation will be an essential component of the strategic planning effort. The Department is committed to gathering, using, and disseminating improved and current information and to preparing regular reports on the status and condition of the Nation's basic transportation systems in each of the major modes. These actions will permit more informed and market-responsive decisionmaking at the Federal level and in other sectors.

Balancing Goals

The policy process is fundamentally a balancing of complex and often competing goals and interests. On the one hand, the Nation is seeking improved transportation systems and services to support economic activity, encourage growth, foster competitiveness, and achieve a variety of social goals. Often conflicting with these critically important goals are the Nation's other vital interests in the areas of safety, energy, environment, equity and mobility for all groups, and national security. Another consideration in this balancing process is the appropriate role and responsibility of each level of government and of the private sector, and the financial concerns affecting each of them. It is essential that these divergent and rapidly evolving demands on the transportation system be fully taken into account and actively incorporated into the ongoing implementation of the national transportation policy agenda within and outside the Department.

The Long-Term Agenda

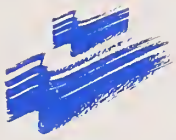
This document sets the framework for the future. As years pass, the results of initial efforts will be available to support decisionmaking, including more extensive data and information gained from increased emphasis on research and development and the implementation of new technologies. Building on those resources, the Department's strategic planning activities will facilitate day-to-day and year-by-year decisionmaking sensitive to national interests, the performance record of the transportation system, and America's transportation needs. As transportation demands evolve, the Federal Government will work with the transportation community and other Federal, State, and local officials to achieve the coordinated, multimodal transportation system that is necessary. These are all essential steps if the Nation is to make wise use of existing resources and launch the long-term efforts necessary to put required systems and facilities in place.

Moving America

The steps are many; the solutions are diverse. The strengths of the Federal, State, and local governments and the private sector must be brought together in a new partnership to move the Nation toward a sound and balanced transportation system that will meet our Nation's multiple and varied needs for the future.

FPG INTERNATIONAL

Appendix



Related National Transportation Policy Documents

This report, A Statement of National Transportation Policy, is the second of two reports entitled, *Moving America: New Directions, New Opportunities*. Volume 1, *Building the National Transportation Policy*, provides an overview of the current situation, a snapshot of the U.S. transportation "landscape." It describes trends and external factors affecting transportation, sets out the key issues, and generally outlines the policy development process.

A related report to Congress, *National Transportation Strategic Planning Study*, was required by Section 317(b) of the FY 1988 DOT Appropriations Act. It provides information on the factors affecting transportation (including demographics, the economy, and energy) and the transportation setting (including regulations, safety, and technology), and reviews the conditions and issues facing each transportation mode. The report also contains current estimates of long-term costs to develop and maintain facilities and services for moving people and goods, and summarizes urban transportation case studies.

For additional copies of this document, contact:

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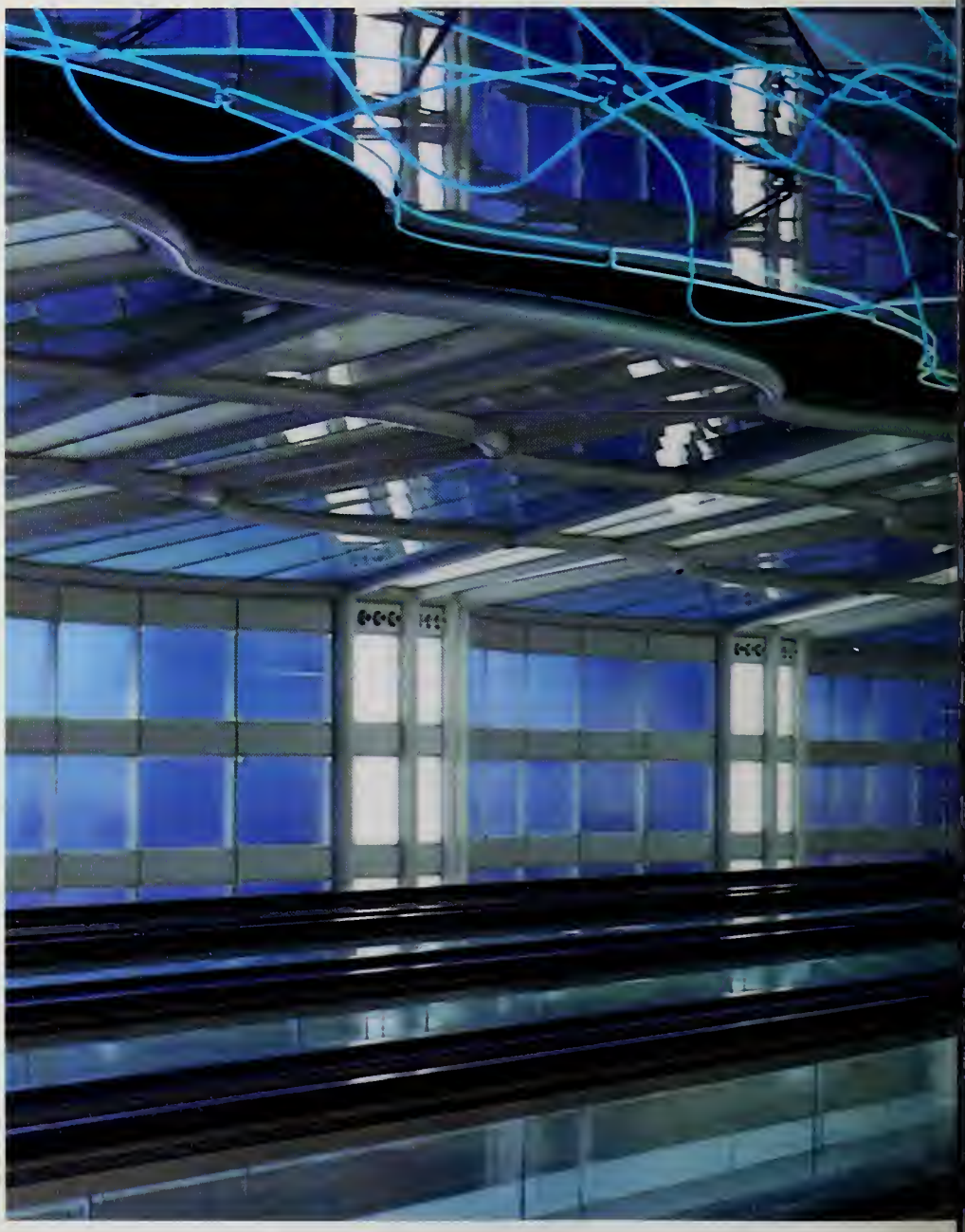

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